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Address

THE RESISTANCE OF THE HUMAN BODY TO CANCER *

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After many years of careful and painstaking work by the surgeons, during which the radical operative methods have been developed to a high degree of perfection, we are still forced to admit that as yet the results of surgical intervention in cancer are anything but satisfactory. The most skilful operators can claim at the best but about 40 per cent. of recoveries in cancer of the female breast,[1] while in cancer of the cervix of the uterus recovery without subsequent recurrence is an exceptional result of even the most radical pelvic operations. Martin[2] gives 10 to 20 per cent. of such patients free from recurrence after five years. Pylorectomy has but occasional isolated recoveries to its credit and even in the least malignant form, carcinoma of the skin of the face, recurrence follows in about 40 per cent., while with carcinoma of the lip success is even less common,[3] and Butlin[4] reports a three years' cure in but 31.4 per cent. of his operations for cancer of the tongue. Probably we have nearly reached the extent of our possible progress in the direction of operative skill, at least so far as extensiveness of removal of tissue is concerned, and consequently the surgeons feel that the only possible direction for improvement is in early diagnosis. Admittedly there is room for great improvement in this respect, and with the rapid bettering of the conditions of medical education it is to be hoped that soon a larger proportion of practicing physicians will be able to recognize even deeply hidden cancers at least as early as the best trained men now can. But while earlier diagnosis and operation in carcinoma will undoubtedly bring up the percentage of complete cures, yet even under the best of conditions the mortality will still be high. How often, if ever, can a surgeon feel certain after he has removed even the earliest cancer of the uterus or of the breast, that recurrence will not follow? Even with the relatively slow-growing and easily diagnosed carcinomas of the face and lips recurrence frequently follows early and radical operation; while with melanosarcoma of the chorioid or iris, which is frequently diagnosed when extremely minute on account of the early effect on vision, operative removal of the entire eye almost never prevents the development of secondary tumors in other organs, although the primary growth may be smaller than a split pea when the eye is taken out. Therefore, no matter how skilful we may become in diagnosis, and however radical our operative procedures may be, malignant neoplasms will still remain a dreaded and fatal affliction for which some other cure than surgery must be sought. But in the face of the many years of failure in this research, the question forces itself on us, have we any right to expect that a specific cure for cancer ever will be found? Is there any good reason for hoping that a method of curative treatment can ever be devised, or must we be resigned to accept the best possible results of surgery as the only goal towards which we can direct our efforts?

While a few years ago the average pathologist expressed himself as very dubious as to the prospect, at the present time there seems to be growing a belief that the hope of a specific treatment for cancer is not unreasonable; not simply from the standpoint of a general optimism which believes that everything good is possible, but because of certain facts in the biology of tumor growth which afford a substantial basis for believing that malignant tumors are not essentially incurable.

If we wish to find a specific therapy for an infectious disease we have two methods available: Either we may stumble on a cure by purely empiric methods, as was done with malaria and syphilis, or we may study the manner in which the body defends itself against the disease, and endeavor to heighten, supplement, substitute or even to initiate this natural method. Perhaps we may consider as in a class by itself the method of therapeutics that is now being developed in Ehrlich's laboratory, in which by more or less empiric methods a substance is found that has some favorable influence on an infection, and then guided by experimental results this influence is enhanced by addition of various and sundry radicals to the nucleus furnished by the original substance. Likewise in the search for a specific therapy for cancer we have the same three methods available, since we must look on cancer as an infectious disease, whether we believe with some that it is due to invasion by a parasite coming from without, or accept the opinion that seems to be held by the majority of pathologists, namely, that in cancer the parasite is the cancer cell itself, and that no extraneous organism whatever is concerned in the disease.

Empiricism has had its chance for centuries without success, and although anything may happen, yet we can certainly have little reasonable hope for any results from this source. As for the synthetic method of Ehrlich, this is yet too young to hazard prophecies;

* An address before the Academy of Medicine of Toronto, April 6, 1909.

* From the Pathological Laboratory of the University of Chicago.

1. Mumford: Boston Med. and Surg. Jour., 1907, clvii, 638.
2. Martin: Deutsch. med. Wchnschr., 1907, xxxiv, 89.
3. Meller's statistics show 50 per cent. of cancers of the head, neck and face free from recurrence three years after operation. (Ztschr. f. Krebsforsch., 1907, vi, 64.)
4. Butlin: Brit. Med. Jour., Jan. 2, 1909.

results that seem to be of value have been obtained with certain of the trypanosome infections; there is ground for hope that the long-desired substance which will kill bacteria without harming the host may eventually be found by this method, and therefore if cancer is due to extraneous parasites it may come under the influence of parasiticidal substances. This much can be said for these two possible sources of cures.

But at the present time we are inclined to believe that the most logical way to find a specific remedy for an infection is to learn how the body cures itself when natural recovery takes place, and then, if possible, to enhance these natural defenses of the body. Before we can do this in the case of cancer, however, we must first satisfy ourselves as to whether the body has any means of defense against malignant growths; for there is a wide-spread opinion that no such natural defense exists and that spontaneous healing can not or does not take place. My purpose in this paper is to point out the evidence that the human body does have some means of natural defense against cancer, which commonly appears to check all tumors to a certain extent, which sometimes impedes their progress greatly, and which very rarely indeed may entirely overcome the malignant growth and lead to complete healing.

It is through the establishment of these facts that we are entitled to hold a reasonable hope that malignant neoplasms will not necessarily always be incurable; and it is through study of the processes which come into play in this natural defense that we may look for the road to therapeutic progress.

We may start out at once with the assumption that no malignant neoplasm ever succeeds in growing to the extent to which its innate proliferative ability entitles it. Ehrlich has calculated from studies of the rate of growth in experimental mouse cancer that if a single cancer graft started proliferating at the usual rate observed in one of his experimental series, and if every descendant graft was implanted into other mice and the process repeated as fast as the tumor reached a size of 1 c.c., leaving out of consideration all difficulties in the way of space and nourishment, at the end of one year the total production of tumor tissue would form a mass, which, if cubical, would have an edge one thousand billion kilometers long and would require a ray of light 105 years to travel the length of one edge of the cube.[5] Such unlimited proliferation would make short work of a mere man, but it can not occur if for no other reason than that the supply of nourishment is bound to be inadequate, and there is no danger that the fear expressed by a medical humorist will ever be realized, namely, that at this rate of growth of mouse cancer and the rapid multiplication of institutions for cancer research, there will soon be danger that all the available nitrogen will be fixed in the form of experimental tumors on mice. One of the commonest occurrences in malignant growths, especially in carcinoma, is necrosis or less extreme retrogressive changes, due to lack of blood supply, which in the main result either from the pressure of the peripheral parts of the growth shutting off the blood supply to the more central portions, or from the tumor cells growing away from their blood supply until they are insufficiently nourished, just as the surface epithelium of the body normally grows away from its supply until the surface cells die and drop off.[6] Again, the rate of growth of a tumor is very decidedly influenced by the nourishment of the patient as a whole; in young, well-nourished persons the rate of growth is usually rapid, and recurrence follows promptly upon operation; in the senile and in the diseased and feeble, tumors grow slowly, and at times seem to remain stationary. The patient suffering from cancer cachexia often lingers on and on with the tumor remaining practically stationary; the development of intercurrent infections notoriously impedes the progress of neoplasms; severe hemorrhages from cancers have been repeatedly observed to be followed by an improvement in the conditions of the growth and an abatement in the progress of the disease, and in the senile a cancer may scarcely influence the health and duration of life at all. On this same principle is based the treatment of inoperable cancer by ligating the vessels that supply it, and also the "hunger cure" of cancer that was once in vogue, not to mention medieval practices of phlebotomy and the production of chronic ulcerations on the extremities of cancer patients "to let the cancer humours escape." In general the rate of growth of cancer is in direct proportion to the nourishment and vitality of the patient, quite the opposite from the relation in the infectious diseases. This is a fact, it seems to me, which may well be advanced among the many arguments that are presented against the parasitic origin of cancer. These various nutritional impediments to tumor growth, while undoubtedly important in retarding the course of malignant disease, have little bearing on our subject of cancer therapy, since they represent entirely non-specific and purely adventitious influences. In the same category may be placed the influence of infection, which, when general, may impair the rate of tumor growth,[7] and when local may destroy more or less of the tumor tissue, including a few isolated cases in which an entire growth is said to have been thus destroyed.

Of more interest to us in our search for natural means of defense are the instances in which malignant tumors show healing changes independent of such merely accidental influences as those cited above. These healing changes may consist of (1) spontaneous local inhibition or temporary retardation of growth, or (2) of retardation of recurrence after removal, or (3) of retrogression of secondary growths after removal of the primary tumor, or (4) of disappearance of portions of tumor tissue left at an incomplete palliative operation.

5. Ehrlich: Berl. klin. Wchnschr., 1905, xlii, 873.

6. Since this article was written there has been published the very interesting lecture by Handley (Brit. Med. Jour., March 6, 1909), on the "Natural Cure of Cancer." Handley's studies on the method of extension of cancer, which have been of such inestimable value in influencing surgical methods of treatment, have yielded some interesting results as to the healing processes that are constantly going on in every cancer. The permeation of lymphatics by cancer cells is followed normally by a process of fibrosis, and, in cases of cancer of the stomach, by the use of specific mucin stains, traces of the mucin left by destroyed cancer cells may be found in the fascia of the abdominal wall when nothing else whatever remains of the original cancer cells, thus showing how complete the local healing of cancer extension may be. Macroscopically, also, if one studies carefully from time to time the location of disseminating cancer, it may be found that many of the nodules disappear, while further away from the primary growth new nodules are springing up. Handley has come to the conclusion that "the progress of a cancer is normally accompanied by retrogressive or curative processes; that the recorded cases of natural repair of cancer, far from being anomalous and exceptional, merely illustrate more strikingly than usual the natural laws which govern every case of the disease." He also propounds the following as a law of cancerous growths: "Every aggregation of carcinoma cells has a definite life-cycle, and, after increasing in size for a varying period and at a varying rate, tends spontaneously to undergo degenerative and fibrotic changes. These changes extend from the center of the mass centrifugally to its periphery, lead to its shrinkage, and terminate in the replacement of the aggregation of cancer cells by a fibrous scar." Handley's account of the processes of cancer extension should be read by everyone who is interested in understanding the principles of cancer growth.

7. For review of relation of erysipelas to cancer see Bolognino: Ztschr. f. Krebsforsch., 1908, iv, 261.

or even (5) of spontaneous healing of a primary tumor without any operative intervention whatever. Cases and discussions purporting to illustrate all these different degrees of healing changes may be found reported in many places, and I shall not attempt to compile here the entire literature of the subject, but shall only refer to such instances as apply conveniently to the topic under consideration.

Total healing without operative interference of any kind, and without recurrence, is practically unknown. This does not necessarily mean, however, that such a thing does not occasionally occur, for it can be readily understood that a small malignant tumor coming under the observation of a physician competent to diagnose it would almost certainly be removed, while patients with tumors more advanced, in which operation can not be undertaken, can not be expected to recover spontaneously. In favor of the possibility of such spontaneous healing without operation is the case reported by Senger[8] in which a woman forty-two years of age developed a tumor opposite the stump of a molar tooth. The irritating stump was removed, and part of the tumor excised for microscopic examination, which revealed a carcinoma; nevertheless the remainder of the tumor gradually disappeared and no recurrence followed. Crosbie[9] describes a similar case in a young man with an ulcerating lesion of the lower lip associated with an eczematous inflammation. Part of the ulcerated area was examined and pronounced carcinoma by the pathologist, and although the rest of the growth was but partially removed the entire process healed up leaving only a little cicatricial tissue.

These and other similar cases suggest that when cancer follows chronic trauma the defensive mechanism of the body may be able, in the early stages, to overcome the cancerous proliferation if only the irritant which stimulates the malignant growth is removed soon enough.

Mohr[11] has described a case of carcinoma of the mouth which arose at the site of a carious tooth, grew slowly and at the end of four years began to show involvement of the regional glands. After reaching a very serious condition it began to improve and at the end of two and one-half years seemed to have disappeared entirely. Unfortunately in this case no microscopic examination was made, but the clinical findings were apparently quite typical.

Rotter[12] records a case of malignant adenoma of the rectum that ran a malignant course for some time; the recurrent growth that developed after an incomplete removal later healed spontaneously. Death occurred some three years later from metastases that had formed in the right iliac bone, and the portion of the bowel at the place where the recurrence had been showed only smooth scar tissue.[13]

Von Hansemann[14] saw a similar case which at first developed progressively, but by the end of eight years had disappeared entirely.

Mohr also has collected from the literature a few cases of healing of superficial carcinomas, of which he speaks as follows:

> Complete healing may occur in rare cases through calcification of an epithelioma. A few rare instances of complete or almost complete calcification and spontaneous healing of epitheliomas have been reported by Förster, Denecke, Stieda, Linser and others. Förster, for example, observed an epithelioma, the development of which was checked by complete calcification of all elements. In Stieda's cases a sharply limited connective tissue capsule with greatly calcified alveoli was present. . . . According to some authors (Dubreuil, Butlin, Bowen) it happens that in rare cases superficial epitheliomas of the skin, especially rodent ulcer, may entirely cicatrize and atrophy. . . . According to Krebig, the epithelial tumors that appear in xeroderma are relatively benign; they may spontaneously become largely replaced by granulation tissue and partly or entirely heal.

Jacobsthal[15] has described an interesting case of extensive spontaneous healing of a carcinoma of the skin of the temple of a man, aged 49, only a narrow zone of proliferating tumor cells persisting about the periphery. Here the healing seemed to be accomplished by the ensnaring and invasion of the cancer cell nests by fibrous tissue, much as Exner[16] has described the processes of healing that take place in cancer under the influence of radium. Similar destruction of cancer tissue by overgrowth of elastic tissue has been observed by von Saar[17] who found accidentally, while studying the effects of age on the mammary gland, a minute (*linsengross*) carcinoma which seemed to be undergoing strangulation by elastic tissue, and he states that, in general, epithelial growth in the mamma leads to a local hypertrophy of elastic fibers which sometimes results in the degeneration of the epithelial elements. As a rule, however, the elastic tissue disappears early and permanently from the tissues in the vicinity of advancing carcinomas of the skin.[18]

Martin[19] records the only case of spontaneous healing of uterine cancer that occurred in his large experience, in the following words:

> In the year 1872 a woman, 40 years old, was brought to me with a scirrhous ulcer of the cervix uteri and of the vault of the vagina. The diagnosis was established microscopically and an operation was refused. The symptoms were slight. Her family physician gave her condurango preparations. This physician reported to me after twenty-two years that the woman still lived; he himself has died since then, and I have not seen the patient again.

Besides this very unimposing array of more or less questionable cases in which carcinoma seems to have undergone spontaneous healing, there are several in which sarcomas and endotheliomas[20] have also disappeared, but as in these the question of differentiation from inflammatory growths is so often difficult they will not be discussed in detail. Frank J. Hall[21] has also observed what appears to have been an example of spontaneous healing of a hypernephroma, which was found encapsulated and entirely necrotic within the substance of the kidney. The chorion epithelium tumors offer by far the largest number of cases of spontaneous healing, Gaylord and Clowes having collected seven, but these tumors seem to be in a class by themselves; at times benign, at times extraordinarily malignant, they not rarely start out with every evidence of malignancy, invading the surrounding tissues and possibly producing

8. Senger: Verhandl. d. deutsch. Gesellsch. f. Chir., 1894, i, 171.
9. Crosbie: Brit. Med. Jour., Feb. 11, 1899, p. 338.
11. Mohr: Therap. Monats., 1903, xvii, 553.
12. Rotter: Arch. f. klin. Chir., 1899, lviii, 357; 1901, lxi, 881.
13. This case is also discussed by Orth, who studied the tissues. (Ztschr. f. Krebsforsch., 1904, i, 399.)
14. Von Hansemann: Mikroscopische Diagnose bosartiger Geschwülste, Berlin, 1902. Cited by Mohr, Therap. Monatsh., 1903, xvii, 553.
15. Jacobsthal: Arch. f. klin. Chir., 1907, lxxxiv, 325.
16. Exner: Wien. klin. Wchnschr., 1904, xvii, 181.
17. Von Saar: Beitr. z. f. klin. Chir., 1908, lvii, 231.
18. Bonney: Lancet, London, May 16, 1908, p. 1389.
19. Martin: Deutsch. med. Wchnschr., 1908, xxxiv, 89.
20. Randolph: Am. Jour. med. Sc., 1905, cxxix, 74.
21. Arch. Int. Med., 1908, ii, 360.

even deeper metastases, and then for no evident reason their growth ceases and all signs of the tumor disappear.[22]

The evidence concerning the healing of portions of carcinomas left after operation is far better than that offered as proof of spontaneous healing of growths on which no operation has been done. It has repeatedly happened that surgeons, having found tumors inoperable, have performed palliative operations, and assured the relatives that death would be only a matter of a few months, only to be surprised by having the patient live for years, in many instances dying not from the primary growth but from remote metastases when the original tumor had been quiescent or even retrogressive for a long time. In other cases the microscope has shown that the surgeon's incision in removing a tumor has passed through cancerous tissue, and yet, in spite of this, local recurrence had not taken place. Such happenings as these can be found scattered about in the literature, and they are undoubtedly far from rare; but often they have been misinterpreted, for the unexpectedly favorable outcome of the case has led to the suspicion in the first class of cases that the diagnosis may have been incorrect, and in the instances in which local recurrence has not appeared in spite of incomplete operation it has been thought that the remaining cancer cells were perhaps snared off by the ligature, or destroyed by a stitch abscess, or something of the kind. Apropos of the cases of improvement of primary growths which sometimes lead to withdrawal of the diagnosis of malignancy, I may recount the history of a patient in whom I was personally interested. In 1893 this patient, a man aged 63, was operated on for what seemed to be a recurrent appendicitis with abscess formation. On opening the abdomen, however, the supposed abscess was found to be a gelatinous mass of tissue, which was said by the operating surgeon to be a colloid cancer; the wound was closed except for drainage, and an unfavorable prognosis given. In spite of the development of a fecal fistula the condition of the patient began to improve after a short time, and a year after the first operation he underwent a second laparotomy for the purpose of closing the fistula. The surgeon who perfomed this operation found what was probably a small calcified mass from an old appendiceal abscess, attached to the bowel; although there were numerous adhesions he was able to remove this calcified plaque and closed the fistula. The patient made an excellent recovery, gained strength and weight, and resumed a very active life for a man of his years as stock raiser and farmer. Of course the first diagnosis of cancer was discarded and it was held up as a grave error on the part of the surgeon who had made it. It was not until 1905, twelve years after this first diagnosis had been made, that the patient began to be again troubled with abdominal symptoms, chiefly tympany with accompanying discomfort, in the course of a year developing into severe attacks of intestinal obstruction that eventually required operation for the relief of the obstruction. An extensive colloid carcinoma involving the abdominal viscera was found, apparently beginning in the vicinity of the cecum where there was a large tumor mass; smaller growths were found everywhere in the omentum, mesentery, and in the wall of the intestine. An anastomosis of the ileum to the colon was made to relieve the obstruction caused by the large mass in the cecum, but the patient, aged 76, lived but a few days.

In this case it is impossible to learn further details about the first two operations, for the reason that the patient, although given up as the victim of an inoperable cancer of the cecum, outlived by several years the three surgeons in whose charge he was. Therefore I do not know whether the original diagnosis was confirmed by the microscope or not; but there can be little doubt that it was correct, for the operator was a surgeon of considerable experience and he defended his diagnosis with great positiveness, stating that there could be no doubt that the patient had a colloid carcinoma of the cecal region, which was in an inoperable condition. Apparently, following the operation the primary growth subsided rapidly, so that a year later another surgeon noticed nothing but abundant adhesions and a diseased and calcified appendix from which had resulted a fecal fistula; not until some eleven years after this second operation had the growth developed enough to cause symptoms. Its colloid nature, and its evident origin in or near the cecum, substantiate the long discredited diagnosis at the time of first operation.

Czerny[23] discoursed interestingly on this topic at the conference for the investigation of cancer in 1907, recounting various instances from his own rich experience and from the literature. He speaks of intestinal cancers as being especially likely to show the late return after palliative operation, as in the above case, recounting the following instances in his own practice:

A physician came to him for operation for a rectal carcinoma, and the carcinoma, together with a cancerous inguinal gland, was removed; yet after this obviously incomplete operation the patient was able to resume practice for seven years, and then died of a diffuse recurrence in the peritoneum.

A woman was operated on for a large carcinoma of the sigmoid flexure, of at least two years' duration, which was adherent to a loop of the small intestine. Although this certainly was not completely removed, yet after four years she was still free from evidences of recurrence.

In another case of resection of a carcinomatous sigmoid flexure the pathologist found that the line of incision had passed through cancer tissue, and yet five years later the patient showed no signs of recurrence.

He also referred to the frequent observation that after a palliative gastrostomy an esophageal cancer may so improve that swallowing again becomes possible, and to the decrease in size of inoperable rectal carcinomas which may follow colostomy, so that they sometimes become operable. These instances are probably related to the cases described previously in which removal of local irritation has been followed by retrogression of cancers (cases of Senger, Mohr, Proescher). Likewise after gastroenterostomy inoperable carcinomas of the stomach sometimes improve greatly, and Daneel has collected from the records of Czerny's clinic no less than eleven cases in which after gastroenterostomy for inoperable cancer the patient has been found to be well from two to fourteen years later. Although the possibility of incorrect diagnosis in these cases exists, since no microscopic examination was made, yet it is not often that a surgeon of Czerny's experience fails to recognize a cancer that is exposed to direct examination. There is also Beck's case, reported by Petersen and Colmers.[24]

22. Literature given by Gaylord and Clowes: Surg., Obst. and Gynec., 1906, ii, 633; Schmauch, ibid., 1907, iii, 259; Teacher: Jour. Path. and Bacteriol., 1908, xii, 487.

23. Ztschr. f. Krebsforsch., 1907, v, 27.

24. Petersen and Colmers: Beitr. z. klin. Chir., 1904, xliii, 159.

which seems to be beyond criticism. A colloid cancer of the pylorus was resected, but several cancerous glands were left behind along the lesser curvature; that they were cancerous was shown conclusively by the fact that a few which were removed were found to be involved. Three years later the patient was operated on for an umbilical hernia, and examination of the stomach showed no signs of local recurrence or of cancerous glands. One-half year later the patient died from intestinal obstruction, and at autopsy the only cancer found was a metastasis in the center of a uterine myoma and another in the sigmoid flexure; the cancerous lymph glands left behind at the time of operation had disappeared, and there was no recurrence in the stomach.

Gould[25] describes an interesting case in which two years after removal of a typical scirrhous carcinoma of the breast, the axillary glands became enlarged and were removed, only to be followed two years later by extensive recurrence in the scar, development of dyspnea, and later apparent involvement of the axillary and cervical glands, the left femur and right lung. Nevertheless these various recurrences and metastases subsided later, after the woman had been desperately sick for some time, and health was largely restored with none of the palpable tumors remaining. Even the crippled femur became repaired enough so that the patient could walk on it. Osler, Vulpian and others have reported similar cases.

Lomer[26] has made an extensive compilation of the cases in which palliative operations on cancer of the uterus have been followed by freedom from local recurrence for two years or more, and collected reports of 213 cases of this kind. Although he accepts cases that a less enthusiastic partisan might not consider well substantiated (notably ninety recoveries claimed by one American author), yet undoubtedly there are many of these reports that are correct, and there seems to be a remarkably large proportion of success among the cases persistently treated for each recurrence with the actual cautery, a point on which Czerny seems to agree. Perhaps the best authenticated of these is the one reported by Ziemssen, who examined at autopsy the body of a woman who had been operated on seventeen years before death for uterine carcinoma; local recurrence had developed after the operation, which was treated by cauterization, and yet no signs of malignant growth were found at the autopsy. Lomer himself had a patient who showed no evidences of recurrence ten years after an incomplete operation for carcinoma of the uterus. More recently Weindler[27] reports three cases of recovery for over five years of patients with inoperable cancer of the uterus treated by local cauterization.

Fleischmann[28] also has observed three cases in which, in spite of apparently very incomplete extirpation of uterine carcinoma there was no recurrence eleven, ten and eight years after the operation. On the other hand, so experienced an operator as Martin,[29] who has similarly treated inoperable uterine cancers by local cauterization, has had in his Greifswald clinic but one such patient live as long as twenty-three and one-half months, and one four and one-half years; 70 per cent. died in the first year.

25. Tr. Clin. Soc., 1897, xxx, 205.
26. Ztschr. f. Geburtsh. u. Gynäk., 1903, l, 305.
27. Zentralbl. f. Gynäk., 1907, xxxi, 632.
28. Wien. klin. Wchnschr., 1908, xxi, 1492.
29. Deutsch. med. Wchnschr., 1908, xxxiv, 89.

There are numerous other isolated instances[30] indicating more or less healing of incompletely removed carcinomas, not to mention an even greater number of sarcomas, among which the giant cell sarcoma of bone especially may not recur after mere local curetting and other conservative methods, as Bloodgood,[31] in particular, has emphasized. Of the other forms of sarcoma, lymphosarcoma seems most likely to show retrogressive and latent periods,[32] but here especially errors of diagnosis are easily made.

From the evidence in these cases it would seem that in some rare instances the local forces, whatever they may be, which hold in check a malignant tumor, may succeed in overcoming it entirely, especially in certain cases when part of the tumor is removed. Ehrlich[33] has advanced an idea, as the outcome of his experiences with the transplantable cancer in mice, which may account for some of these cases. Observing that after an implanted cancer has once begun to grow vigorously it is almost impossible to plant another graft successfully elsewhere in the same animal, he suggests that some peculiar foodstuffs which exist in limited amount in the body may be necessary for cancer growth, and that when cells with a high avidity for this substance are actively growing they may accumulate all that is available and leave none for newly implanted cells.[34] Such immunity to inoculation is referred to as "atreptic" by Ehrlich. This hypothesis reminds one of the "exhaustion theory" of immunity advanced by Pasteur, and may seem rather fanciful, but it illustrates a general principle which often manifests itself, namely, that when a tumor produces abundant and vigorous metastatic growths the primary growth may sometimes cease active increase, and may even retrogress to a considerable extent. An interesting case in point is reported by Freeman,[35] as follows: A man aged 35 years, had a small indurated, crusted sore on the right side of the lip, which persisted for about one year, and then disappeared leaving a small scar. Less than one year later, and nearly two years from the beginning of the disease on the lip, a glandular swelling was observed in the right submaxillary region which was removed after about nine or ten months later; local recurrence took place and developed rapidly until a fatal carcinoma of the neck and face caused death. This growth, which apparently came from the submaxillary glands, was a squamous-celled carcinoma, indicating that the growth which had disappeared from the lower lip was a primary carcinoma.

Jacobsthal[36] mentions a very similar case in which a patient with carcinomatous submaxillary glands showed no other primary growth than a healed scar on the lower lip, where an ulcer had been which healed three-fourths of a year previously.

Seven cases of cancer of the breast, in which the primary growth slowly decreased until it had almost entirely disappeared, while at the same time secondary growths were appearing, are cited by Williams.[37] In all these the secondary growths proved fatal, although

30. Several of these have been collected by Gaylord and Clowes, Surg., Gynec. and Obst., 1906, ii, 623.
31. Bloodgood, Joseph C.: Conservative Operations on Bone Tumors, THE JOURNAL A. M. A., Feb. 1, 1908, l, 325; Johns Hopkins Hosp. Bull., 1903, xiv, 134; Progressive Med., December, 1902, p. 150.
32. See Ruff: Wien. klin. Wchnschr., 1906, xix, 528.
33. Verhandl. d. deutsch. path. Gesellsch., 1908, xii, 13.
34. It should be mentioned that a number of investigators in other laboratories have not found this inhibiting influence of growing tumors upon secondary implantations, as described by Ehrlich.
35. Freeman, Leonard: Spontaneous Disappearance of Carcinoma of the Lip, THE JOURNAL A. M. A., 1901, xxxvi, 1309.
36. Jacobsthal: Arch. f. klin. Chir., 1907, lxxxiv, 333.
37. Twentieth Century Practice, 1898, xvii, 394.

at the time of death there remained practically nothing of the tumor in the breast, which might be considered as a form of atreptic process, the secondary growth withdrawing all the suitable nutriment from the primary growth. Osler and others have described similar examples of this sort of retrogression of primary tumors.

Another set of cases to which I particularly wish to refer are those in which operative removal of the primary growth leads to disappearance of, or healing changes in, the already present secondary growths. The case of Beck, cited above, is one of this sort, and there are others in the literature. I have had the good fortune to study a remarkably clear case of this type, thanks to the kindness of Dr. Alexander Harvey, in whose practice it occurred, and who has supplied me with his notes on the case.

History.—The patient was a woman, about 40 years of age, who had previously been operated on for the purpose of performing a ventrofixation of the uterus. In December, 1905, she complained of neuralgic pains in the facial, cervical, intercostal and sciatic nerves; on examination a tumor was found in the left breast, which was removed by operation on Dec. 20, 1905. After the operation there was considerable pain in the left arm and cervical region, and in the operation wound; these pains continued for the following eighteen months, although until nearly the end of this time her general health was good. In March, 1907, the patient reported suffering with severe occipital headache, loss of 20 pounds in weight, and polyuria. The urine showed a few hyaline and granular casts and a trace of albumin, specific gravity, 1.003, total amount in twenty-four hours as high as 90 ounces, but without the presence of sugar. She suffered from insomnia, severe headaches that could not be controlled by medication, and periodic vomiting; interstitial nephritis was suspected. Later the patient developed slight coma, with ammoniacal breath, dry skin, accentuated second aortic sound. She was removed to the Baptist Hospital, where she died in coma that had lasted two days, with several minor convulsions just preceding death, which occurred on June 15, 1907.

Fig. 1.—Gross appearance of the liver. The depressed scars near the lower edge of the right lobe and on the anterior surface of the left lobe are the sites of islands of contracted scar tissue, which have replaced almost totally the tumor metastases that had formed here.

Autopsy.—The body was slender, but not emaciated. The left mammary gland was the site of a scar, which extended into the axilla, but there was still enough fatty tissue present to preserve the outline of a fairly developed breast. There could be found no induration about this scar, and no signs of tumor tissue could be found by dissecting up the tissue beneath the scar. The axillary glands were not enlarged, and the right breast was normal. In the abdominal cavity the uterus was found adherent to the scar of a median laparotomy wound, and attached to it by a silkworm-gut suture. The left tube and ovary were missing, and about one-fourth of the right ovary only remained, with the normal right tube. In the lower end of the ileum was a hard white nodule, about 5 mm. in diameter, situated in the wall of the bowel 50 cm. above the ileocecal valve; the mucosa was not ulcerated over this nodule. In the mesentery of the upper jejunum were found about a dozen indurated lymph glands, containing an abundance of firm white tissue, and averaging about 3 mm. in diameter; there was also one hard and slightly enlarged retropancreatic lymph gland. The lower retroperitoneal lymph glands were not enlarged. The thoracic viscera showed no similar nodules or other changes of interest. The liver was found to be slightly smaller than normal, and dark in color. Just above the gall-bladder notch was a striking area of depression, due to a wide white scar several millimeters beneath the surface of the liver; the margins of this scar consisted of a narrow zone of what seemed to be tumor tissue infiltrating the liver for a short distance, and giving it a whitish appearance. In the anterior surface of the left lobe were two similar areas near together, one 15 mm. in diameter, the other 25 mm. (Fig. 1). In the stomach there were no evidences of carcinoma, but beneath the serosa, especially in the pyloric region, were numerous small subserous nodules, white and the size of a pin-head. The pancreas and right adrenal showed no changes, but the left adrenal was firm, white on the cut surface, and in the middle was a small nodular indurated area. The kidneys showed no gross changes, and there were no other findings of interest, except the presence of a few gallstones. Unfortunately the brain and meninges could not be examined.

Anatomic Diagnosis.—Old amputation of left breast; secondary carcinoma nodules, with fibrotic changes in liver, mesenteric glands, adrenal and ileum; old laparotomy wound with adherent omentum; old ventral fixation of uterus with amputation of left ovary and tube and part of right ovary; slight congestion of liver, kidneys and spleen; adhesive fibrous pleuritis, edema of lungs; calcified nodule in lung; cholelithiasis.

Histologic Examination.—Mesenteric Lymph Glands: The largest, 3 to 5 mm. in diameter, had been almost entirely replaced by carcinoma cells and fibrous tissue, the latter predominating. In the main the tumor cells were much compressed between dense bands of fibrous tissue, had deep staining nuclei and little cytoplasm, and their arrangement was in long strands with a tendency to tubule formation when not too much compressed. In a few places about the edge there seemed to be invasion of previously uninvolved lymphatic tissue where the cancer cells were not compressed, but even here no mitotic nuclei could be found. There was no evidence of necrosis or of giant-cell formation. Some of the smaller glands showed isolated groups of cancer cells infiltrated by lymphoid cells; others showed small areas of hyaline substance, and still others had an overabundance of fibrous tissue, suggesting that possibly there might have been a period when cancer cells were present in these glands, but that they had been replaced by hyaline material and fibrous tissue.

Adrenal: This organ was extensively infiltrated with carcinoma cells, peculiar in that the adrenal tissue was merely replaced without alteration in the size or shape of the organ. Both cortex and medulla were involved, but the growth was checked by the capsule. In many places, especially near the center of the adrenal, there was an abundance of fibrous tissue compressing the carcinoma cells, which tended to be arranged in tubules and in the outer edges of the carcinoma was frequently found an extensive round-cell infiltration. Where the amount of fibrous tissue was least mitotic nuclei could occasionally be found; they were also present in tumor thrombi found in the larger vessels of the medulla. There seemed to be two periods of growth represented here; one in which the carcinoma cells were partly replaced by scar tissue, and one in which the growth was now active.

Nodule in Ileum: This consisted of fibrotic tumor tissue having its center in the submucous connective tissue, but infiltrating into the serosa and mucosa. In the latter region the cells seemed to be growing freely without much connective tissue about them, but everywhere else there was much fibrous tissue which compressed the cancer cells. Mitoses were very scanty. Eosinophiles were abundant in the mucosa.

Stomach: The subserous nodules described at the autopsy were found to be small, well-developed lymph glands, located in the serosa, and showing no tumor cells.

Liver: (Figs. 2 and 3). The depressed scars were composed of a uniform mass of scar tissue, poor in vessels, and with only an occasional group of cancer cells at the edges. This scar tissue, devoid of cancer cells, measured about 15 mm. across, while the zone of activity proliferating cancer cells outside it measured about 2 to 3 mm. The scar tissue passed quite abruptly into the cancer tissue and gave the impression that the healing changes had been rather suddenly terminated and active proliferation had begun not long before death. The proliferating cells were in columns and tubules, showed many mitotic nuclei, and a moderate amount of round-cell infiltration, but the free margin seemed to be invading the liver tissue without inciting any considerable reaction.

To recapitulate this case, we have to do with a woman who remained in fair health for nearly eighteen months after the removal of a carcinoma of the breast, and without recurrence in the scar or in the regional glands. The patient died, after a brief illness, with symptoms resembling those of uremic coma and accompanied by polyuria, very probably from cerebral or meningeal metastases, although this could not be determined, as we were not permitted to examine the head. The condition of the secondary growths that were found in the adrenals, mesenteric glands, ileum, and liver, especially the latter, indicated very clearly that, although active proliferation had been going on just before death, yet there had been an interval in which healing changes had predominated, so that in the liver nearly all the cancer tissue had been replaced by scar tissue, causing cicatricial depressions in the liver such as are commonly found in syphilis. Apparently on removal of the primary tumor growth had been temporarily checked in the secondary nodules then existing, and healing processes had made away with almost all the cancer tissue in the metastases in the liver. It must be that the conditions obtaining in those cases in which deep-seated metastases first make themselves known many years after the removal of a tumor are similar to those observed in this case.

Fig. 2.—Low-power view of a cross-section of the large mass of scar tissue above the gall-bladder notch. The large, light-colored area represents the island of hyaline tissue which replaced the cancer growth. About this is a mass of vascular scar tissue and fibrous adhesions, not yet contracted.

Cases of similar nature have been described by others, and even with complete healing of the metastases; of these one of the most striking is that of Schuchardt.[38] In a patient on whom he operated for advanced carcinoma of the stomach were found large numbers of metastases on the peritoneum. Two and one-half years later the patient died from pleuritis, and at autopsy nothing remained of the peritoneal metastases and there was no recurrence in the stomach. Unfortunately in this case no microscopic examination of the nodules was made, therefore the possibility of a combination of gastric carcinoma and peritoneal tuberculosis cannot be excluded.

Roux[39] also had a similar case, in which at a resection of a gastric carcinoma general carcinosis of the diaphragm was found, yet three years later the patient was still in good health.

Graham[40] has reported a case from the Pathological Laboratory of Rush Medical College of a woman who was operated on in June, 1897, for scirrhous carcinoma of the breast, which showed no signs of recurrence. In 1903 she became sick with diabetes insipidus, and died on Nov. 8, 1903. At the autopsy there were found no evidences of local recurrence in the breast, but fibrous cancer nodules were found in the pleura, liver, pancreas and adrenals. These nodules were either entirely encapsulated with scar tissue, which also intersected the tumor tissue, and when not encapsulated with scar tissue the tumor nodules were surrounded with young granulation tissue. In addition to these features the presence of pseudo-giant cells, the appearance of atrophied and necrotic epithelial cells in portions of some of the tumors, and the absence of mitotic figures all pointed to a healing process which had checked the growth of these tumor metastases, which must have been in existence since, over six years before, when the breast tumor was amputated.

These cases all seem to indicate very clearly that the primary growth exercises in some way an influence on the secondary growths. Very frequently the sequel of an operation on a primary tumor is the rapid spreading and increase in size of metastases, so that the removal of a slowly growing scirrhous cancer may be followed in a few weeks by death from an enormously rapid and abundant development of secondary growths. On the other hand, it occasionally happens, as in the cases cited above, that after the removal of the primary tumor the secondary growths seem to lose their power of proliferation, so that they may either become entirely replaced by fibrous tissue, or they may retrogress for a time and then begin to take on renewed activity of growth, as in my own case. Undoubtedly many of the instances of late recurrence belong to this last class. Labhardt[41] has collected and reviewed the records of many cases of late recurrence of carcinoma, and found that of 2,142 cases of mammary carcinoma with recurrence, in 3.7 per cent. recurrence followed at a period of over three years after operation, and of 257 recurrences of carcinoma of the rectum 9 per cent. were after the three-

38. Zentralbl. f. Gynäk., 1901, p. 664.

39. Cited by Mohr: Therap. Monatsh., 1903, xvii, 553.
40. Tr. Chicago Path. Soc., 1907, vii, 8.
41. Labhardt: Beitr. z. klin. Chir., 1902, xxxiii, 571.

year limit, and 9 per cent. of 373 recurrences following 1,300 operations for lip and face carcinoma appeared after the third year. Hirsch[42] found that of 371 cases of recurrence of mammary carcinoma after operation 109 (29.3 per cent.) appeared between the fifth and fourteenth years after operation. Bircher[43] found records of about fifteen cases in which recurrence was first observed after operation for mammary carcinoma during the second and third decennium, of which one was in the twenty-ninth year and another in the thirtieth year. Cameron[44] also describes a case in which recurrence was observed beneath the pectoral muscle twenty-seven years after amputation of the breast for cancer. In these cases it would seem that cancer cells must have lain dormant for all these years, perhaps undergoing partial replacement by connective tissue but with a few cells remaining viable to start up proliferation again when the necessary conditions were present. Such facts make us wonder if most of our operative cures of cancer may not depend on spontaneous retrogression of metastases present at the time of operation, rather than on the absence of such metastases, which we have always assumed must account for all successful results.

Just how the removal of the primary growth causes this inhibitive influence on existing metastases is an interesting problem. It may be imagined that the primary tumor supplies some element which either stimulates the secondary growths or so injures the normal tissues that the secondary growths are not impeded. As supporting the first hypothesis to some extent may be mentioned the observation of Leo Loeb[45] that pieces of benign tumors may be transplanted into another place in the same animal in which they have arisen, and remain alive throughout, whereas when implanted into a different animal of the same species they become necrotic in the center or throughout. Apparently an animal in which such a tumor exists has something in its blood or tissues that favors the growth of this tumor and of secondary growths of the same tumor. An adenoma of the mammary gland of a rat that was transplanted into another part of the body of the same rat was observed to enlarge simultaneously with the swelling of the mammary gland that accompanied a pregnancy. Here, it would seem, is evidence of a stimulus that may incite tumor cells to multiply, and which is, perhaps, different from the substances that merely permit the transplanted tumor cells to live.

A possible explanation of the retrogression of metastases after operation which I would suggest is *autoimmunization*. During operative manipulation a considerable amount of cancer juice and cancer tissue is forced into the circulation; ordinarily, as we too frequently observe, this results in a rapid and wide-spread recurrence, but it may happen that under certain circumstances these cancer products stimulate the reactive forces of the organism and lead to an active immunization. In support of the view that such immunization by cancer products is possible I would recount the very important case described by Mackay.[46] The patient, a woman of 37, was operated on for a scirrhous carcinoma of the breast, but recurrence after thirteen months was so extensive that operation was impossible. Twenty-one months after the operation there developed a bilateral pleurisy with large amounts of bloody effusion, apparently carcinomatous, and by the end of four months the patient seemed to be almost in extremis; suddenly the fluid in the chest cavity began to subside, coincident with which the patient's general condition improved rapidly, and the recurrences, so far as they were visible, disappeared in a remarkable way. This disappearance is described (in a personal letter) as follows: "I described the changes as if the tumors had withered. A closer description would be to say that it looked as if the tumors had dissolved, and so dissolved, had become absorbed, leaving nothing but the covering of skin." Apparently the serum from the cancerous pleura, on being absorbed, either itself attacked the existing growths, or else, which seems to me more probable, it stimulated the resisting powers of the organism and led to the development of cytolysins for the cancer cells which caused the rapid retrogression of the cancer tissue.* Ribbert[47] has reached a similar conclusion from his studies of the local reaction that occurs about carcinomas. In the early stages of the growth of a carcinoma the surrounding connective tissue is frequently stimulated to proliferate, so that the growth is at first walled off; later this reactive proliferation becomes less and less until it ceases entirely, and the carcinoma then advances unimpeded. Therefore, he thinks that in the case of spontaneously developing tumors there is no process of immunization, but rather the development of habituation of the tissues to the tumor, and the only prospect of immunization con-

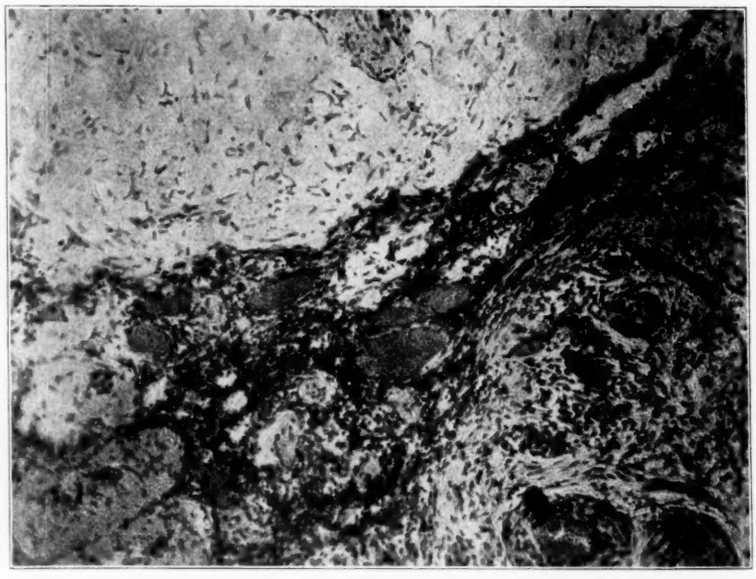

Fig. 3.—Higher-power view of the junction of the hyaline scar tissue and vascular, cellular scar tissue. No cancer cells whatever are present in this scar tissue.

42. Dissertation, Freiburg, 1904.
43. Bircher: Zentralbl. f. Chir., 1907, xxxiv, 756.
44. Brit. Med. Jour., March 6, 1909, p. 577.
45. Loeb and Leopold: Jour. Med. Research, 1907, xvii, 299.

46. Brit. Med. Jour., July 20, 1907, p. 138.

* Dr. Mackay informs me by letter that his patient lived only a few months after this fortunate relief from her symptoms. He says: "My patient, I am sorry to say, died some five weeks after I had read my paper. [This would make the day of death about fourteen weeks after the events referred to.] She had gone through a very great amount of suffering under circumstances of excessive mental strain, and she died of exhaustion. So far as we could make out clinically the disease had absolutely left her. Whether, if she had lived, it would have recurred, is another matter."

47. Deutsch med. Wchnschr., 1906, xxxii, 1693.

sists in the sudden overwhelming of the organism with cancer substance which would stimulate an energetic production of antibodies, just as appears to have occurred in Mackay's case. Ribbert suggests that possibly injection of extracts of a cancer immediately after its removal by operation might induce an active immunity sufficient to destroy hidden metastases and cells left behind in the operation; a suggestion, which, in the light of the observations recorded above, seems well worthy of trial.

Finally, as another source of evidence of resistance of the body to malignant growths, may be mentioned the conditions under which metastases are formed. There seems to be prevalent an impression that the escape of cancer cells from the primary growth necessarily means the formation of secondary growth where these cells lodge, which is, fortunately, very far from the truth. In all probability only an extremely small proportion of the tumor cells that become scattered about the body ever succeed in multiplying, for otherwise nearly every malignant tumor would develop metastatic secondaries almost at its very start. It is by no means uncommon, for example, to find a hypernephroma growing into the renal vein as a soft friable tumor thrombus, from which cells must be continually breaking away, yet without having produced metastases. In primary carcinomas of the liver there have frequently been found hepatic veins containing tumor thrombi, and yet no secondary growths could be found in the lungs or elsewhere. Furthermore, we have a very excellent example of local susceptibility and local resistance to tumor growth in the well-known tendency of chorioidal melanosarcoma to produce metastases chiefly in the liver. The cells which escape from the primary growth in the eye must first pass through the lungs, and then be distributed all over the body in the systemic blood, of which the liver gets only a relatively small part through the hepatic artery besides what has passed through another capillary filter in the intestines and entered the portal vein; yet not infrequently in such cases the liver is found riddled or solidly infiltrated with melanosarcoma while the lungs and the rest of the body are almost entirely free from metastases. Evidently many tumor cells which have been lodged in the lungs and other tissues of the body must have been destroyed, while those that lodged in the liver found a fertile soil or a lack of local resistance. Other examples of this sort of local immunity could be cited in great variety.

Cohnheim, indeed, believed that the entire matter of metastatic growths, and, by the same token, the entire malignancy of cancer, depended, not on any peculiarity of the cancer cells, but on the degree of local power to destroy these cells. This view was based on his experiments with periosteum, which, when injected intravenously in small fragments, lodged in the lungs and formed by proliferation nodules of bone; but after a short time these nodules became absorbed. Lubarsch believes that the local resistance to tumor growth is much modified by the poisons which are secreted by the primary growth. M. B. Schmidt[48] has shown that by careful examination of the lungs of patients dying from abdominal cancer, emboli of cancer cells may be frequently found, (in fifteen of his forty-one cases) showing all stages of disintegration or organization, and others have repeatedly observed the same thing in mouse cancers. Similarly, degenerating cancer cells may be found in non-cancerous regional lymph glands of patients with cancers, or in the lymph sinuses about the glands, while hyaline and other degenerative changes may be found in a large proportion of such glands even when there is no bacterial infection to which they might be ascribed.[49] On account of these facts Lubarsch[50] suggests that cancer cells must first be repeatedly set free and destroyed in the regional glands until the poisonous materials thus liberated have so overcome the cells of the glands that they can no longer successfully resist the cancer cells. Similarly the regional glands, and also more remote tissues, may be prepared for invasion by cancer cells through the action of injurious materials discharged from the primary tumor. As Petersen expresses it, carcinoma cells can not flourish at once in remote tissues, because the soil is not fertile for them; they can grow only in soil that has been first thoroughly "manured" (*gedüngt*) with epithelial toxin brought by the lymph stream.

In any case, from the behavior of secondary growths after their formation as well as from the conditions that are necessary in order that secondary growths may occur, we obtain evidence that the tissues or the body fluids are enabled to defend the body to a very considerable extent against the cells of malignant tumors. The mechanism of this defense is not understood. One thinks at once of cytolysis, knowing that immunization to any given type of cells seems to lead to the production or more or less (generally less) specific cytolytic substances. In the cases in which healing changes have been studied, however, there have not been found good evidences of cytolytic changes, and Gaylord and Clowes state that there is no histologic evidence of cytolytic action in experimental tumors of mice undergoing spontaneous recovery. Sometimes the fundamental change seems to be a loss of the proliferative power of the cancer cells, so that the surrounding proliferating connective tissue now grows more rapidly than the cancer cells, strangling and destroying the latter through starvation. Becher, Schwartz, Petersen, and others have considered that in the healing of superficial carcinomas phagocytic giant cells are active destructive agents, but Borrmann,[51] after a study of 265 cutaneous carcinomas, concludes that these giant cells attack only hornified and dead epithelial cells, and never the living, proliferating cells. On the whole the evidence seems to be in favor of the view that it is simply a decrease in proliferative power that leads to the spontaneous healing or to long periods of latency. Gaylord and Clowes conclude from the histologic findings in tumors that are undergoing resolution either spontaneously or under the influence of *x*-rays, that it seems plausible "that both the *x*-ray and the immune forces in spontaneous retrogression act in opposition to some stimulus which causes the limitless proliferation of the cancer cell." One can imagine a lack of the hypothetical *attraxins* which B. Fischer's[52] experiments have suggested act as stimulants to epithelial proliferation, or, possibly, as Graham has mentioned, antiattraxins may be formed. Certainly it is fundamentally important that this mechanism of defense should be most thoroughly worked out, for in it lies what seems at the present time to be the key to the solution of the problem of the specific therapy of cancer.

48. Verhandl. d. Gesellsch. deutsch. Naturforsch., 1898, p. 11.

49. Fromme (Ztschr. f. Krebsforsch., 1907, v, 39) considers that mast cells play an important part in the defense of the lymph glands against cancer.

50. Ztschr. f. Krebsforsch., 1907, v, 114.

51. Deutsch. med. Wchnschr., 1904, xxx, 1267.

52. München. med. Wchnschr., 1906 liii, 2042.

Just now our chief hope lies in the experimental work that is being done in numerous laboratories with the transplantable tumors of the lower animals. Not infrequently more or less retrogressive changes occur in these experimentally produced tumors, sometimes leading to definite healing of the new growths. Gaylord and Clowes[53] have observed healing of implantation tumors of mice that had begun to grow, in no less than 101 of 711 inoculations, but of these in only 11 had the tumor reached a diameter of 1 cm. or more. Other experimenters have not observed healing of successful grafts in nearly so large a proportion of their cases. It is well known that animals are immune to the majority of tumors with which inoculation is attempted, and even with the most readily transplanted tumors a considerable proportion of the inoculated animals do not develop tumors, indicating a very high degree of natural resistance. Also, susceptible animals in which inoculated tumors are growing rapidly are usually immune to inoculations.

But besides this natural, congenital immunity it has been found possible to obtain a varying degree of acquired immunity, both active and passive, in experimental animals. This fact offers us certainly the greatest encouragement in our search for means of checking malignant growth, and the evidence so far collected may be summarized briefly as follows:[54] Immunization against transplantable tumors was first demonstrated in mice by Jensen, in dogs by Stickler, and in rats by Leo Loeb. It was found that animals which had recovered spontaneously from transplanted tumors were quite immune to subsequent implantations of tumors, and that they might also be made immune without having to be actually infected with tumor growths. Stickler found that living tumor cells (sarcoma in dogs) injected directly into the circulating blood do not give rise to tumor growth, but, on the other hand, render the animal immune to subsequent inoculation. Ehrlich rendered mice immune to transplantable carcinoma by previous injection of benign mouse tumors, while Bashford found that the same result could be obtained with repeated injections of mouse blood, and Schöne immunized successfully by repeated injections of mouse embryos and various tissues of mature mice. On the other hand, immunity can not be produced by injection of tumor cells killed by chloroform, by heat or by cold.

Apolant[55] has also observed a form of healing of mice carcinoma that has never been observed in human carcinoma, namely, reversion of typical carcinoma to a benign adenomatous structure.[56] The change of adenomas and other benign tumors in man into malignant tumors has been observed frequently enough, but never the reverse change from malignancy to benignancy. This phenomenon occurred in experimental cancer only in animals that had previously been partially immunized against mouse carcinoma, which would seem to indicate that the resistance of the organism determines the nature of a tumor, just as the same factor seems to determine the starting of the new growths.

Passive immunity seems as yet not to have been so successfully produced as active immunity, nevertheless there is evidence that the blood of animals spontaneously recovering from tumors may sometimes cause retrogression and even healing of tumors in inoculated animals, as well as render animals more or less resistant against implantation of tumors.

Also we have the "atreptic" immunity of Ehrlich, which has been previously mentioned, the fundamental manifestation being that animals with rapidly growing malignant tumors show themselves absolutely or relatively immune to subsequent inoculation with tumor tissue in some other part of the body,[57] an observation which has not been altogether confirmed by other investigators. Gay[58] has observed a somewhat related phenomenon in rats with transplantation tumors. In the strain of tumors studied by him there seems to be a "premetastatic period" of about thirty days, during which period only could evidence of the presence of antibodies for the tumor tissue be found by the fixation test. If during this premetastatic period, while the animal is still able to react to the implanted tumor by forming antibodies, a second implantation is attempted, in many cases not only does the second tumor fail to grow (atreptic immunity of Ehrlich), but the first tumor may disappear entirely or retrogress and undergo fibrosis.

Such observations accumulating within the few years during which systematic investigations of tumor transplantation have been in progress, give much hope that eventually something may be done for the cancer patient besides radical operation. How much we are entitled to transfer results of experiments with the transplantable tumors of lower animals to our pathology of human cancer is still a debatable question, but I trust that the human cases that I have collected and discussed will indicate that there also exist in man natural forces that tend to cause healing of malignant tumors, and that the possibility of augmenting these forces is before us and should encourage us to constant effort toward this end.

53. Surg., Obst. and Gynec., 1906, ii, 633; also Seventh Ann. Rep. Cancer Lab. New York State Board of Health, 1905-6.

54. For summary see Sticker: Immunität und spontane Heilung der Krebskrankheit, Ztschr. Krebsforsch., 1908, xii, 55.

55. München. med. Wchnschr., 1907, liv, 1720.

56. Orth (Centralbl. f. Path., 1908, xix, 449) takes exception to Apolant's view that the adenomas thus formed should not themselves be considered carcinomas rather than benign tumors.

57. For discussion of this topic see report of the symposium on cancer research in the Verhandlungen d. deutsch. pathol. Gesellsch., 1908, xii, 13.

58. Jour. Med. Research, 1909, xx, 175.

A Plea for a Wider and Better Extension of the Knowledge of Sanitary Science.—W. P. Mason in *Science*, April 23, 1909 says that this has been called an age of hygiene. The statistics and records of health departments show that the reduction in the death rate, etc., in many of the contagious and infectious diseases, justify the term. Still, a better knowledge of sanitary science should be extended to all classes of people. The sanitary instruction received in the schools is too often of an inferior quality, and there is too little of it given. Militia and army officers and all men who have charge of large bands of laborers should have enough knowledge of sanitary science to enable them to protect not only their own men, but also the communities in the neighborhood of their camps, from contagion and epidemics. "Of all the members of a community the physicians are the ones towards whom we most quickly look for instruction in matters sanitary;" then "it is pertinent to inquire if the medical schools provide such instruction as will place their graduates in position to properly meet their double responsibility. Such a question must too often be answered in the negative." Likewise, trained nurses are too often lacking in sanitary information. Too few of them know "why corrosive sublimate is not uniformly a good disinfectant for tuberculosis sputum." Sanitation in the matter of air and water is particularly considered. It is shown why careful supervision of water supply is demanded, and why more stress should be laid on the quality of the air we breathe. Although surprising, "the cold fact remains that bad air is responsible for more deaths than alcohol."

Original Articles

PRIMARY CARCINOMA OF THE LIVER

WITH REPORT OF A PATIENT WHO REMAINED WELL OVER TWO YEARS AFTER OPERATION

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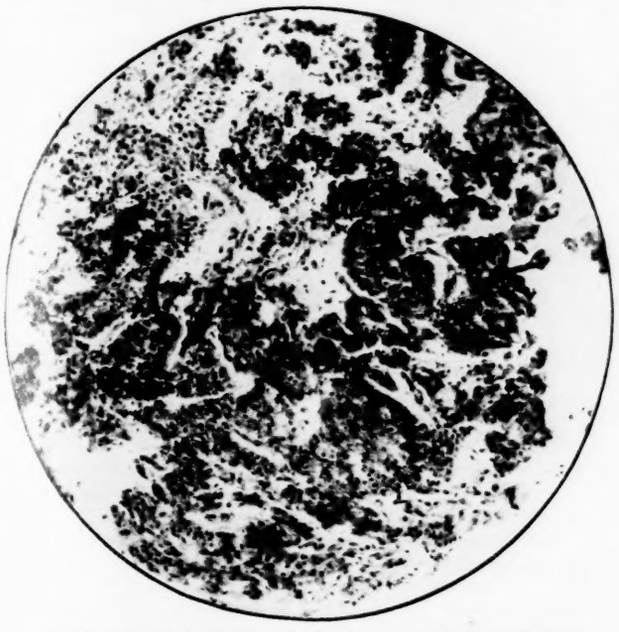
Primary carcinoma of the liver is a rare affection. The literature on the subject consists mainly of reports of individual cases and consequent limited experience.

White[1] states that in 11,500 autopsies at Guy's Hospital during the years 1870-93, there were 11 (i. e., about 1 in 1,000) cases of primary carcinoma of the liver, and that but 7 such cases were reported in the Transactions of the Pathological Society of London during twenty sessions.

According to Eggel[2] of Munich, who has studied the subject exhaustively from the standpoint of pathology, primary carcinoma of the liver occurs about once in each 2,000 cases of all fatal ailments coming to autopsy. He tabulates 163 primary cases, of which 117 are described microscopically, 100 being of liver-cell origin and 17 of the bile-duct variety. The others showed metastases or infiltration, malignant in character. Ewing[3] affirms this classification and states that "primary carcinoma of the liver does not necessarily exhibit a single characteristic structure."



Photomicrograph of section of primary carcinoma of liver.

Contrary to formerly accepted views, Eggel's findings establish the frequency of metastases (66 per cent.) from primary hepatic carcinomata and shows their tendency to form tumor thrombi in large vessels. In his cases, metastases involved the following structures singly or in combination: veins (59 times), glands (38 times), lungs (17 times), gall bladder (7 times), kidneys (5 times), bones (4 times), peritoneum (4 times), spleen, pancreas and pleura (twice each), thyroid, esophagus and heart (once each).

William J. and Charles H. Mayo[4] report that clinically primary carcinoma of the liver "appears in several forms: (a) massive development, which involves a large section of the liver and has a well-marked line of differentiation from the sound tissue; (b) infiltrating; (c) nodular growth, usually one primary growth with secondary nodules." This corresponds to Eggel's macroscopic findings, the growth in 104, or 64.6 per cent., of his cases being of the nodular form, 37, or 23 per cent., of the massive type, and 20, or 12 per cent., of the diffuse variety.

ETIOLOGY

Its etiology is obscure. It seems to occur later in life in the primary than in the secondary growths. According to Eggel, the fifth decade is the period of predilection, but cases are recorded at all ages from the third to the seventy-sixth year. There was a history of hereditary carcinoma in 4 of Eggel's cases, of alcoholism in 30, gallstones in 14 and lues in 4. Trauma was apparently a direct factor in 7 cases.

The relation of cirrhosis to carcinoma of the liver is debatable. Some degree of cirrhosis was present in 85.4 per cent. of Eggel's series. There were, however, in the 163 reported cases but 69 which showed well-developed cirrhosis, nearly all of which were of the atrophic type. In these 69 cases there was a history of alcoholism in 30 only and of lues in 2. With our present knowledge of the origin of primary carcinoma in solid viscera it can be stated only that cirrhosis and carcinoma may coexist without causal relation in most cases; cirrhosis may precede or follow the growth, each process developing independently, or the same process that produces the one may cause the other.

Peabody[5] observes that the increase in connective tissue in secondary hepatic carcinomas "is limited to the proximity of the new growth."

SYMPTOMS

The growth may run its course without a single symptom before death, which may be due to a fatal hemorrhage, as in Ewing's case,[3] or to some intercurrent disease. This, however, is exceptional. As a rule, there is disturbance of digestion as the first and almost constant symptom. The clinical histories in 147 of Eggel's cases showed the presence of icterus in 61 per cent., ascites in 58.5 per cent., edema of extremities in 41 per cent., enlarged spleen in 32 per cent., and fever in 14 per cent. Anemia, emaciation and cachexia come on apace. The duration from the appearance of the first symptoms is three or four weeks to two and a half years. In the latter the early symptoms are doubtless due to the cirrhosis, which may argue for this being a precursor of the cancer in certain cases. The average duration after development of the cancer proper is about six months.

DIAGNOSIS

"Diagnosis is difficult and experience fallacious." The symptoms above noted are common to a number of conditions, and the physical signs may lead us astray. Our examination should, therefore, include especially the uterus and adnexa, rectum and colon, as most probable sites of the primary growth. Atrophic cirrhosis may obscure a primary carcinoma, unless it be massive, the liver to physical examination being actually smaller than normal.

1. White, Hale: Allbutt's System of Medicine, 1903.
2. Eggel, Hugo: Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's), 1901, xxx, 506.
3. Ewing, James: Proc. New York Path. Soc., January, 1907.
4. Mayo, William J. and Charles H.: Keen's Surgery, 1908, p. 966.
5. Peabody, G. L.: Am. Med., 1904, viii, 320.
6. Keen, W. W.: Pennsylvania Med. Jour., October, 1897, p. 198.

According to Keen,[6] the diagnosis is usually wrong. In his observations the tumors of all varieties which proved to be hepatic were usually supposed before operation to have their origin from the colon, omentum, mesentery, kidney, ovary or abdominal wall. It is of diagnostic significance that in many cases there was an area of tympany between the tumor and the hepatic dulness. We are also to suspect the liver as the seat of the tumor if it rises and falls with the respiratory movements of the diaphragm.

CASES IN LITERATURE

Authentic cases of primary carcinoma of the liver in which operation has been done are very rare, indeed. Kehr found only one cancer suitable for operation in 800 operations on the liver. Tumors of the liver are common enough, as syphiloma, adenoma, angioma and cysts, but the malignant growths are usually secondary. Keen[7] reports 76 cases of resection of the liver for hepatic tumors, including three of his own, and Willy Anschütz[8] has collected reports of several additional cases in an excellent monograph, treating the subject from the operative standpoint.

Keen concludes that "only single and primary growths should be attacked. When malignant disease is secondary or exists as multiple tumors, it should be let alone. If we may cure 50 per cent. of cases of cancer of the breast and over 50 per cent. of cases of cancer of the rectum, why should we not get equally good results at least in those cases of cancer of the liver which are well limited and with little or no lymphatic involvement. Every case, therefore, save those manifestly beyond relief, should be explored and the later steps determined by what is found." From these and other sources I have been able to collect reports of only 9 cases of primary carcinoma of the liver in which operation was done. These are here given in tabulated form:

TABULATED SYNOPSIS OF CASES OF PRIMARY CARCINOMA OF THE LIVER IN WHICH OPERATION WAS DONE

Author.	Sex	Age.	Duration of Disease.	Size of Tumor.	Anteoperative Diagnosis.	Method of Removal.	Result.
Jacobs: Rev. de Chir., 1896, No. 12.	F.	50	Several yrs..	Orange.....	Fibroma, ; abd. wall.	Thermocautery and drainage.	Recovery; recurrence, 7 months.
Lapointe: Bull. Med., 1897, p. 883.	F.	34	Metrorrhagia, 1 year.	2 tumors, each larger than 2 fists.	Uterine fibroid.	Pedicle clamped and divided.	Death; third day.
Lücke: Centralbl. f. Chir., 1891, No. vi, p. 115.	F.	31	2 years..	Fist.....	.....	Elastic ligature and cautery.	Death 8 years later from recurrence (?); gumma.
Tippilini (1901): Reported by Anschütz.	....	....	.....	Occupied most of left lobe.	.....	Elastic ligature; resection two days later.	Healed; recurrence and death in two months.
Keen: Ann. Surg., September, 1899.	M.	50	3 months....	14 × 11 × 7.5 cm. Weight 21 oz.	.....	Thermocautery; entire left lobe.	Recurrence and death in 5 mos. (Personal communication.)
Hochenegg (Anschütz)....	F.	58	.....	.....	.....	Excised and stump fixed in abdominal wound.	Patient well 3 years later: carcinoma?
L. Freeman: Am. Jour. Med. Sc., 1904, p. 611.	M.	27	1 year.....	Fist.	Gallstones...	Tumor isolated by gauze strips through liver substance.	Operation Jan. 20, '03; excellent health Aug., 1906; presumably well at present. (Personal communication, Dr. Freeman.)
Schrader: Deutsch. med. Wchnschr., 1897, No. 11, p. 173.	F.	30	Uncertain...	4 × 3.5 cm.....	.....	Excised; wound cauterized and fixed in abdominal wound.	Operation Apr. 25, 1890; patient alive and well March, 1897.
Roux: Rev. méd. de la Suisse rom., 1897, No. 2.	M.	54	.....	Pedunculated tumor of right lobe, colon adherent.	Carcinoma: transverse colon.	Excised: bleeding controlled by suture through liver.	Recovery.

REPORT OF CASE

To these I add the following case of my own:[9]

History.—The patient, Mrs. J. A., aged 37, was a housewife. Her parents and one sister were alive and well. One brother had been killed in an accident. The patient was married when 15. Menstruation began when 16; always regular, but painful. She had leucorrhea, dating from marriage; and menstrual pains were present until the cervix was dilated and uterus curetted at the New York Hospital seven years after her marriage. While there a benign cyst was removed from beneath her tongue. The patient had typhoid fever when she was 24, nine years after her marriage; when she was 32, she had double salpingitis and local peritonitis, accompanied by severe gastritis, from which she recovered with local treatment. Prior to this peritonitis she suffered from occasional "bilious" attacks, but subsequent to it they became frequent (two or three a week), consisting of nausea, vomiting of food and bile, headache and general prostration. These attacks persisted intermittently for a year; then at times she noticed distention (gaseous) and had some pain in the right hypochrondrium. The pressure of her clothing was distressing and excited vomiting. During 1905-6 she had frequent "sinking" spells when reclining. There were no chills, rarely fever, and never any jaundice. The bowels were regulated with laxatives. The distention increased slowly and weakness was progressive, although combatted by various methods, including anti-luetic treatment.

General Examination.—Sept. 15, 1906. The patient had the general appearance given by much suffering; her skin was muddy; the conjunctiva, clear and pale; the tongue coated; the chest negative. Urine: Sp. gr. 1016, turbid, acid, trace of albumin, indican normal, no sugar, microscopic negative.

Owing to a misunderstanding of the house surgeon no leucocyte count was taken.

Abdomen: To inspection there was a marked prominence in the right hypochondrium. On palpation a firm oval tumor was felt extending from the right costal margin downward an inch below the naval and slightly beyond the mid-line, moving with respiration. On percussion flatness was present over the area occupied by the tumor, but there was a zone of tympany just below the costal arch. The upper line of liver dulness was normal. A tentative diagnosis of tumor of the kidney or liver was made.

Operation.—Sept. 17, 1906, at the Polyclinic Hospital. Gas and ether anesthesia. A vertical incision was made from tip of eighth right rib to level of umbilicus. A tumor presented so large that its limit could not be defined without enlarging opening by a transverse incision from its center to the right mid-axillary line. It was now evident that the tumor was in the right lobe of the liver. The fundus of the gall bladder felt normal, but the size of the tumor precluded palpation of the bile ducts. The surface of the tumor was markedly congested and traversed by a network of large veins. One spot imparted the feel of a tense cyst, confirmed by the aspirating needle withdrawing bloody fluid. The peritoneum was then pro-

7. Keen, W. W.: Boston Med. and Surg. Jour., April 28, 1892; Ann. Surg., September, 1899.

8. Anschütz, Willy: Samml. klin. Vortr. Chir., 1903, No. 99.

9. Case reported and patient shown before the Surgical Section of the New York Academy of Medicine, Dec. 4, 1908.

tected by gauze pads and the tumor incised, about twelve ounces of bloody, odorless fluid escaping. Many trabeculæ were broken down with the hand, and great quantities of soft, degenerated tissue removed with a dull spoon from the walls of the cavity, which was about the size of a large grape-fruit. Rubber drainage-tubes were inserted and the cavity loosely packed with gauze. The vertical wound was closed with through and through sutures of silkworm gut. Time of operation forty minutes. The patient was returned to her room in fair condition.

Postoperative History.—The same evening she suffered from shock, and her condition was critical the following three or four days, owing apparently to a profound sapremia. The temperature rose at once, reaching 104 F. in twenty-four hours. During the next ten days it varied from 101 F. to 104 F., whence it gradually receded to normal. The discharge from the wound was very large in amount, dark and offensive, containing much detritus (necessitating many irrigations daily), and soon assumed the offensive permeating odor characteristic of cancer. After the tenth day the discharge slackened quite abruptly, and the patient was removed to her home on the eighteenth day; the sinus closing four weeks later. Since the operation, now over two years, the patient has enjoyed excellent health. Previous to the operation her weight was 110 to 120 pounds, but during the six months thereafter it rose to 150, and the past year and a half has remained between 140 to 150 pounds. Her complexion is ruddy and her skin fair. There is an occasional dragging pain at the site of the wound, presumably due to adhesions, and a hernia admitting three fingers, readily kept in place by ordinary corsets. By deep pressure over the wound the hand detects a hard nodular painless mass, moving with the liver in respiration. This has remained the same size for the past year, and doubtless is the cicatrix in the liver.

Pathologic Examination.—Dr. F. M. Jeffries, of the Polyclinic Laboratory, mounted sections of the tissue from the wall of the cavity and reported Sept. 22, 1906: "The tissue from the liver of Mrs. A. received from you the 19th inst. is carcinoma. It is largely necrotic and, I should judge, of a considerable degree of malignancy." Prof. James Ewing, of Cornell, examined the same slides and wrote as follows: "The tumor in the case of Mrs. A. has all the histologic characteristics of a malignant tumor, belonging in the general class of carcinoma. It has some of the structural features of perithelioma or hypernephroma, but I am unable to state its exact origin or nature."

The illustration is from a photomicrograph made by Dr. Frederic E. Sondern from one of the slides.

The case is reported as a contribution to a subject the literature of which is, of necessity, very meager. The operation as performed presents no special features. The questions of interest are: 1. Is the process carcinoma? 2. If so, what was the rationale of the recovery? for it is still too early to state that we may not yet have a recurrence, in view of the postoperative histories of the cases cited. The pathologists' report, with the characteristic odor while healing, answers the first question in the affirmative. A reply to the second is more difficult and largely speculative in our present chaotic knowledge of the pathology of carcinoma.

Roger W. Williams[10] has covered the natural history of cancer to date most ably. He states:

The biology of cancer, like that of normal parts, is conditioned mainly by the inherent properties of their constituent cells; and, in a less degree, by their blood supply. Hence, the same elementary pathologic disturbance may be witnessed in them as in the normal parts—e. g., congestion, inflammation, suppuration, gangrene, necrobiosis, ulceration and the degeneration metamorphoses. The most frequent anatomic cause of congestion and inflammation of cancer is obstruction to their venous circulation, which so often happens during the progress of their growth.

Eggel's findings are in accord with this view, 51 of the 163 cases showing "degeneration metamorphoses" of one kind or another, as softening, cheesy or necrotic changes, or fatty degeneration.

The cavity in my case was filled with bloody fluid, and its walls and trabeculæ composed of tissue largely necrotic.

Williams[10] further states:

Indications are not wanting of occasional spontaneous retardation and arrest of the disease, and even of its retrogression; but I can not cite a single instance of its complete spontaneous cure. In the penultimate stage of the cancerous cachexia and in most illnesses causing great wasting and exhaustion (e. g. phthisis), cancerous growths may become stationary and retrogressive.

Brooks H. Wells[11] reports a most interesting case, illustrating calcareous degeneration and spontaneous retrogression of a carcinoma, in a woman, aged 33, on whom he operated in 1898.

He found extensive carcinosis (confirmed by the microscope) of the pelvic organs, intestine and glands, and, considering the condition unsuitable for operation, he closed the wound. Four years later a palliative operation was done *per vaginam*, by another surgeon. At the patient's death in 1905, the autopsy revealed absence of any large tumors, all peritoneal and vaginal surfaces smooth except for numerous hard white particles, varying in size from a mustard seed to a bean. These, when decalcified, showed glandular carcinoma, as did the sections taken eight years before.

Czerny[12] reports a number of cures (?) following apparently inadequate operations, and Wells has seen several such instances.

Maurice H. Richardson[13] says: "I am convinced that a considerable number of tumors pronounced malignant, and in fact malignant, disappear under local or systemic conditions which are artificially produced."

In view of these citations and the operative findings, I venture to suggest that in my case there were several processes at work to effect the result, viz.:

1. Venous obstruction by the growth as it enlarged resulted in congestion and inflammation at its periphery and degeneration of the major part of the tumor into a soft pultaceous mass.

2. This prevented invasion of healthy tissues by the carcinoma.

3. Bodies absorbed from the fluid material tended to immunize the system.

4. Infection, already present or accidental, as shown by the postoperative temperature, may have played an important rôle; compare Richardson's case.

5. The incision was made at the opportune moment; i. e., when the entire tumor had undergone softening and was ripe to be cast off as soon as a vent was provided.

19 East Forty-fifth Street.

Breach Against Good Literary Manners.—The *Deutsche med. Wochenschrift* states that two articles were recently received for publication without notification that they had been published elsewhere, notwithstanding that the writers must be aware that it is not considered good form in Germany to publish the same article in more than one journal. The editor states that in future he will charge the expense of publication to such authors.

10. Williams, Roger W.: Natural History of Cancer, William Wood & Co., 1908.

11. Wells, Brooks H.: Am. Jour. Obst., 1908, p. 403.

12. Czerny (cited by Wells): Ztschr. f. Krebsforsch., v. 23.

13. Richardson, Maurice H.: Ann. Surg., 1898, p. 742.

PAINLESS AND PAINFUL ANGINA PECTORIS *

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Eleven years ago I presented[1] a paper to the California Academy of Medicine entitled "Cases of Angina Sine Dolore, Due to Disease of the Right Ventricle." The matter gave rise to some discussion at the time but dropped out of sight until within the last few months when Dr. Jellinek and Dr. Cooper advanced the same idea without being aware of the existence of my earlier contribution. It is possible that further investigation may be encouraged by a report of some of the cases that suggested such a hypothesis, together with conclusions reached from personal observation.

Confusion may be avoided by making the preliminary statement that while all the cases mentioned in this paper are examples of angina sine dolore associated with disease of the right ventricle I must not be understood as asserting that the painless variety is the only form of angina associated with disease of the right heart. Furthermore it is suggested that the painless angina attack is the sudden and temporary failure of a weak or diseased right ventricle, which, for the time, is unable to maintain the pulmonary circulation; while painful angina is due to the sudden obstruction of some part of the coronary circulation, either organic or spasmodic in character. I have suggested that cardiac asthma is an indication of disease of the right ventricle but I do not say that it is limited to cases in which the right ventricle alone is affected; on the contrary it is very frequently found in cases in which both ventricles are involved, as in patients in the last stages of mitral incompetence after failure of compensation has taken place; but the presence of the symptom under such circumstances signifies that the right ventricle is seriously diseased as well as the left.

As the phenomenon of cardiac asthma in relation to diseases of the right ventricle will be more easily studied where it was the only symptom present, the following cases with the reports of the autopsies are presented for consideration.

CASE 1.—A mechanic, aged 24, rather under the average weight, of good habits, complained of pain about the precordia. The family physician failed to find any sign of heart disease and attributed the discomfort to strain caused by playing on the cornet. He therefore forbade the use of the instrument, and prescribed a tonic treatment, under which he improved for several months; but the distress recurred, and on one occasion he had an attack which his friends said was "something like a fainting fit," but he asked for fresh air and appeared to be perfectly conscious. When I saw him soon afterward he appeared to be in his usual health. About thirty-six hours later, while eating supper, he experienced another seizure, which he at once realized to be fatal, and in little more than thirty minutes he died, after showing signs of gradually increasing heart failure. I was not present at the autopsy, but the family physician told me that there was marked fatty degeneration of the right ventricle.

CASE 2.—A lawyer, aged 40, was suffering from intermittent fever which had lasted for several months, and also from an acute orchitis. It was nearly five weeks before he was well enough to be pronounced convalescent. In the hope that it would hasten his recovery, he decided to take a trip east, but, before leaving, he called at my office and asked me to examine his heart, as he had a feeling of oppression over his chest and a constant desire to take a long inspiration. Careful examination of the pulse and chest failed to reveal any signs of disease, and the patient was dismissed with the assurance that it was simply a temporary weakness resulting from his long illness. Next morning I was surprised to learn that he had been found dead in bed. The coroner's autopsy showed the left ventricle to be healthy in every respect; but through the entire thickness of the wall of the right ventricle there was a band of fat nearly one inch in width, and in the cavity of the ventricle there were two white clots, one lozenge-shaped, measuring about one by one and a half inches, and a second, about seven inches long and as thick as a lead pencil, extending from the ventricle into the pulmonary artery. Evidently the streak of fat in the ventricular wall had prevented a complete systole, so that the ventricle never was perfectly emptied, and the clots were permitted to form during his prolonged rest in the recumbent position.

CASE 3.—A merchant, aged 63, suffered with precordial anxiety and slight attacks of dyspnea. The pulse was good and the area of cardiac dulness normal, but there was a slight musical intonation of the second sound in the aortic area, so that instead of the usual "lubb tup," we heard "lubb toomp." There was also slight edema of the feet. The autopsy showed that the left ventricle was healthy, but that there was considerable fatty degeneration of the right ventricle and atheroma at the base of the aorta.

CASE 4.—Another case very similar to the preceding was seen on several occasions in consultation with Dr. Henry Gibbons. The patient was an elderly man and was subject to attacks of cardiac asthma that would come on without any special cause; some occurred in the evening on different occasions when he was quietly seated with the family and others woke him up during the night. The radial pulse was small and quick during the attacks but so surprisingly good between them that we searched for some explanation beyond the cardiac condition. The patient died during a seizure and autopsy showed a degenerated right ventricle.

CASE 5.—A physician, who was present when my original paper was presented to the academy, on many subsequent occasions remarked that he was suffering from painless angina, but as examination failed to reveal any valvular trouble or signs of circulatory weakness, and as the attacks were very transient, much of his distress was attributed to his highly emotional temperament. It was, therefore, with considerable shock that I learned of his sudden death about 3 o'clock in the morning nearly three years later. An autopsy showed atheroma at the root of the aorta, the cardiac muscle in apparently good condition for a man of his years, but the right heart dilated so as to press on the vena azygos and produce a moderate degree of hydrothorax on the right side.

Other cases of cardiac asthma in which autopsy revealed disease of the right ventricle could be reported, but enough have been mentioned to illustrate the frequency with which angina sine dolore and diseased right heart are associated.

The type of breathlessness met under such circumstances is altogether different from ordinary cardiac dyspnea; it is a suffocative paroxysm that may follow exertion or emotion but just as frequently may occur without any evident cause. It does not present the same signs as spasmodic bronchial asthma, as the air enters the lungs freely and there is no indication of obstruction in the bronchi except in those cases in which complete cardiac failure is associated with sudden edema of the lungs or in which the paroxysm comes on as an occasional feature in patients in whom compensation has failed and pulmonary changes have already existed. The attack is simply a paroxysm of air hunger which the patient tries to satisfy by quick and deep inspirations. Instead of the quick forcible inspiration with prolonged expiration that is characteristic of bronchial asthma we have a forcible inspiration with a quick and frequently a gasping expiration. It has not been my experience to find any increase in the ten-

* Read before the San Joaquin County Medical Society, Feb. 26, 1909.

1. Occidental Medical Times, May 1898.

sion of the pulse during these attacks of painless angina; on the contrary it is a rapid pulse, small and of diminished force, but it is frequently a matter of surprise to observe how quickly the pulse will recover after the paroxysm has passed.

In these cases three features were noticed particularly: 1. There were changes in the wall of the right ventricle. 2. During the attack the pulse was small and feeble. 3. After the attack was over and between the various seizures the radial pulse was of good quality. With these facts, the following explanation of the seizure is possible.

The condition to start with is a right ventricle in a state of malnutrition as a result either of defective coronary circulation or of impaired metabolism. Such a muscle has very little reserve force and its assimilative powers are diminished so that it is easily exhausted either by a demand for sudden effort or by any interference with its blood supply. The conditions under which cardiac asthma is most frequently observed, apart from sudden effort to which the heart is unable to respond, are when the patient is resting after mental or physical fatigue, also during the early hours of sleep, and occasionally after a heavy meal or one that is slow of digestion, especially if the patient goes to sleep before digestion is completed. The improved methods for observing blood pressure that have been devised during the last few years show that these are exactly the conditions under which lowering of the aortic and consequently of the coronary blood pressure is sure to be found. All observers are agreed that exertion of any kind at first induces a rise in pressure, but that if prolonged it may ultimately be accompanied and invariably is followed by a fall. Also during the first hours of sleep the pressure is very low and rises gradually toward the time of waking. The results of observations during digestion are somewhat conflicting and possibly depend to some extent on the character of the food and the assimilative powers of the patient. The majority of investigators, however, report a fall during digestion and attribute it to dilatation of the splanchnic area.

Physiologists tell us that muscle fatigue is simply due to the accumulation of the products of activity in the muscle acting as poisons on its protoplasm, and that we must depend on the activity of the circulation for their removal and the reconstruction of the tissues. If, therefore, the coronary circulation becomes depressed in a cardiac muscle that is already deficient in reserve force and recuperative power it need not occasion surprise if at times the muscular contractions are not sufficiently strong to discharge their physiologic function and that corresponding symptoms should manifest themselves. It is important that this should be recognized in regard to treatment because the injudicious use of vasodilators, such as nitroglycerin, will still farther reduce the aortic pressure and aggravate the condition.

If the disease be limited to the right ventricle we can easily understand how the radial pulse improves so rapidly when the seizure is over, but in cases in which the asthma is simply intercurrent on the symptoms of general cardiac disturbance such as failure of compensation in long-standing cases of mitral incompetence such improvement is not found and should not be expected.

It is impossible to explain the absence of angina sine dolore in some cases of dilated or fatty heart, unless it be that sufficient healthy muscular fibers remain to produce a complete systole, or that the exciting causes, such as emotional disturbance and physical or mental strain, have not been out of proportion to the capabilities of the heart. That extensive degeneration may exist without producing any symptoms to awaken suspicions of heart disease is a well-established fact; indeed, we frequently hear that some man, who never was supposed to be the victim of cardiac disturbance, has died suddenly after some strain or excitement, and that autopsy has shown degeneration of the heart muscle. In a number of such cases inquiry will ascertain that death was ushered in by an attack of the peculiar form of dyspnea that has been described as angina sine dolore.

Painless angina is much more common than one would suppose it to be from the infrequency with which it is mentioned; but, in all probability, the disease is not always recognized, and the patient's sufferings are attributed to hysteria or some reflex disturbance. When the symptoms are accompanied by a dilated right heart or distinctly atheromatous changes the diagnosis is easy, but when physical signs are absent it is difficult to arrive at an absolute opinion. If, when free from the paroxysms, the patient continually suffers from a feeling of weight or distress over the precordia, and has a tendency to take occasional deep inspirations, there is a strong probability that the right ventricle is affected: and this amounts to certainty if the symptoms are invariably produced or aggravated by exertion.

This form of angina is entirely different from the painful variety and in many instances demands a diametrically opposite treatment. The cause of angina pectoris is still a matter for discussion, but in all probability it is due to some local obstruction in the coronary circulation which may be organic, spasmodic, or a combination of both. The fact that the radial pulse varies in different cases, the pressure being sometimes high and at other times low, indicates that the attacks can not invariably be attributed to increased resistance in the peripheral circulation. It has been suggested that angina pectoris is due to strain on the heart by obstruction in the arterial system and that while in certain cases the vascular pressure may be actually low, nevertheless it may be too high for the capabilities of the myocardium. I have seen a very large number of patients with weak and dilated hearts who under varying conditions were subjected to considerable increase in peripheral resistance and suffered precordial pain and distress in consequence, but the proportion of those in whom a typical angina attack ensued was infinitesimal. Such an experience leads to the conclusion that the explanation of the symptoms characteristic of angina pectoris must be sought elsewhere than in the condition of the cardiac muscle.

One can hardly witness an attack of angina without thinking of the extreme pain that is produced in other parts of the body as a result of sudden anemia following embolism, vasomotor spasm or some other cause, and this, together with the fact that postmortem examination so frequently shows disease of the coronary arteries, either in their main trunks or in their smaller muscular branches, forcibly suggests the idea that this malady may be due to ischemia from some form of obstruction in the coronary circulation, and that the myocardial changes can be attributed to the same arterial disturbance, the muscular degeneration being an associated lesion but having no causal relation to the

intensely painful seizures. The causes of the obstruction are not the same in every case. It may be that the lumen of the arteriole is narrowed from disease so that under exertion some part of the heart muscle does not obtain a sufficient supply of blood and therefore an ischemia is established; or we may have a rise in blood pressure during which the coronaries participate in the general arterial contraction, but this contraction may be sufficient to obliterate the stream in one of the cardiac branches which is already narrowed by disease. It is perfectly possible that some of the attacks are due to very minute emboli or sclerosis permanently obliterating a small vessel. The rapidity with which in many instances an attack yields to vasodilators such as nitroglycerin or amyl nitrite has for many years warranted the belief that vascular spasm plays a very prominent part in the production of the pain, but the fact that general high blood pressure is present in some cases of angina pectoris, absent in others, and present in a very large number of people who never suffer from angina pectoris inclines me to the belief that spasm of the coronary arteries is the essential feature in producing the attack and that the relief that follows the administration of such substances as nitroglycerin is due to the relaxation of the coronary spasm which would take place independently of any fall in general blood pressure; in short, that in those cases in which the blood pressure is high the pain is due to overcontraction of some coronary branch and not to pressure exerted on the ventricular cavity on account of increased peripheral resistance. Such a hypothesis explains the existence of angina irrespective of high or low blood pressure; it explains those cases, sometimes described as spurious angina, in which patients have suffered from a typical seizure consequent on errors in digestion and metabolism; it explains the improvement in those patients who at one time could not walk across a room without provoking a seizure but who as a result of appropriate treatment are able to walk two or three miles without difficulty.

This local vasomoter spasm is nothing new in medicine. In Raynaud's disease we can observe it in the finger, on the body surface, or on some part where it may persist with such intensity as to terminate in multiple gangrene or pass away and leave the patient with very little evidence of the attack. Transient loss of consciousness and brief hemiplegias in the course of the disease indicate that not even the cerebral vessels are exempt from the spasmodic contraction. It is therefore perfectly possible that similar local spasm may affect the vessels of the heart.

It seems, therefore, that with our present knowledge we are warranted in believing that angina pectoris is due to some form of obstruction in the coronary circulation; that the changes in the peripheral blood pressure are coincidences rather than causes of the attack; and that the degeneration of the cardiac muscle may be the consequence of the impaired coronary supply but not the cause of the painful seizure.

The treatment of those two forms of angina will be entirely different during the seizures, but as a rule it is identical between the paroxysms. Since cardiac asthma is due to failure of the right ventricle rapidly acting stimulants, such as caffein, camphor, or strophanthus, will be indicated for the relief of the paroxysm; while angina pectoris, on account of the coronary spasm, will call for vasodilators such as nitrite of amyl, nitroglycerin or morphin. It not infrequently happens that the subject of coronary spasm is also suffering from a weak heart and under such circumstances a combination of heart stimulant and antispasmodic is demanded.

Between the attacks the treatment is that which has been recommended in cases of chronic myocarditis and arteriosclerosis. The regulation of diet, in regard to both variety and quantity, so that the circulation never will be overloaded with food or waste material, is of the greatest importance. Avoidance of mental and physical strain and the regulation of exercise in accordance with the capabilities of each individual case must be carefully observed. The administration of arsenic and the prolonged use of iodids in small doses for a period of several months will be found in many instances to have a very beneficial effect on both the cardiac muscle and the blood vessels. And last, we never should neglect the judicious use of remedies which will aid in eliminating by their natural channels all toxic substances resulting from physiologic activity or food metabolism.

2605 California Street.

A NEW METHOD FOR THE TRANSFUSION OF BLOOD

AN EXPERIMENTAL STUDY *

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A method of transfusion by means of a vascular bridge, composed of a fresh animal blood vessel, interposed between the artery of the donor and the vein of the recipient, was described in a preliminary communication[1] some months ago. Since then further experiments have been carried out in order to find means of preserving ready for use the vascular bridge, which, for the sake of brevity, will be called simply the "link" throughout the rest of the paper.

It is not our purpose to discuss when and where transfusion is indicated. The future alone can show whether the present enthusiasm is justified, and whether transfusion is here to stay. That, however, direct transfusion is being quite largely practiced is readily seen by the numerous modifications of the technic constantly appearing in the literature, and by a recent discussion held at the meeting of the New York Academy of Medicine, Surgical Section, Jan. 8, 1909. Dr. Hartwell, in connection with a paper he then read[2] on a new method of transfusion by means of direct intubation of the artery into the vein, referred to forty-one cases of transfusion done with the aid of various cannulæ (chiefly by Crile's technic) which he had collected through private communication with eighteen surgeons of New York City. In this series twenty technical failures were recorded. It has been our privilege to witness personally twelve transfusions on the human subject. In all of these the exposure of the artery proved tedious and in some cases difficult, chiefly because of numerous minute side branches which required ligation. If these branches are seen before they are cut

* From the Pathological Laboratory, College of Physicians and Surgeons, Columbia University.

1. Frank: New York Med. Jour., Nov. 28, 1908.

2. Hartwell, John A.: A Simple Method of Blood Transfusion without Cannula, THE JOURNAL A. M. A., Jan. 23, 1909, lii, 297; Am. Jour. Surg., March, 1909.

across, ligation is not difficult; if on the other hand, as not infrequently happens, they are torn, annoying bleeding occurs, to stop which it may be necessary to apply lateral ligatures on the artery, thus partly occluding its lumen, either through actual constriction or through the resulting parietal thrombus. Another difficulty is encountered in the choice of the cannula; if it is too small the vessel is constricted, if too large cuffing will prove difficult or impossible. This difficulty is to some extent prevented by the use of either the Elsberg[3] or Levin[4] instrument. Again when the final union of artery and vein is undertaken, the operator is obliged to work in a cramped space at great disadvantage. In consequence of these difficulties it requires from twenty to forty-five minutes to establish union between artery and vein, if everything goes smoothly, while double that length of time is not unusual. Such prolonged exposures necessarily produces contraction of the radial artery with consequent impairment of the flow of blood, and greatly favors clotting, especially if all the safeguards so necessary in vascular surgery are not scrupulously observed.

Fig. 1.—Wire frame used to stretch the link during preservation, with cannulæ in position.

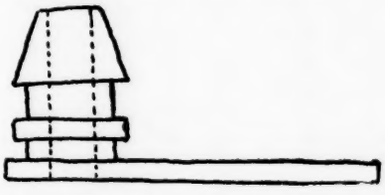

Fig. 2.—Crile cannula slightly modified in shape. The end is more pointed and the grooves for ligatures are farther removed from the opening. This favors easier introduction.

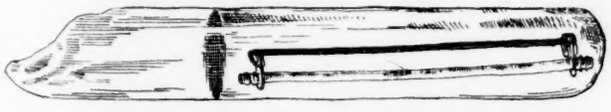

Fig. 3.—Link ready for use, in sealed test-tube, immersed in paraffin oil.

ADVANTAGES OF THE LINK

The use of the link offers the following advantages:

1. A sufficient length of vessel is obtained without extensive dissection of the artery of the donor or the vein of the recipient.

2. The link as now prepared by us has lost some of its elasticity and is well stretched, so as to afford an unobstructed lumen within the cannulæ.

3. The technic is familiar to every surgeon from its similarity to that used in intravenous infusion.

FORMS OF LINKS

1. *Fresh Links.*—The fresh links, as first suggested, required preparation immediately before they were needed, which entailed obtaining a dog of suitable size, aseptic removal of its two carotids, etc. It was also found that unless the carotid fitted the cannula accurately a considerable diminution in caliber was caused by the contraction due to the elastic tunic, which served to shorten and at the same time thicken the vessel wall, thus producing a constriction of greater or lesser degree within the cannula. All these faults are overcome by means of the following method of preparation.

2. *Formalinized Links.*—Fresh carotids are obtained from medium-sized dogs, immediately after death, carefully washed out with cold normal salt solution, and stripped of any surrounding connective tissue. The adventitia at both ends is drawn over the cut end of the artery and snipped off. A Crile, or other tube of appropriate size, is selected, the artery pushed through the tube and by means of two eye forceps cuffed and secured with a fine silk ligature tied in the groove nearest to the handle. The opposite vessel end is similarly cuffed over another Crile tube, care being taken to have the handles pointing approximately in the same direction transverse to the long axis of the link in order to avoid torsion subsequently. The completed link is now stretched and kept stretched by means of a small frame readily improvised of soft brass wire (Fig. 1) which serves to keep the cannula sufficiently far apart to thin the walls of the link and thus afford a wide lumen within the cannula. The tension should not be so excessive as to flatten the link at its central portion.

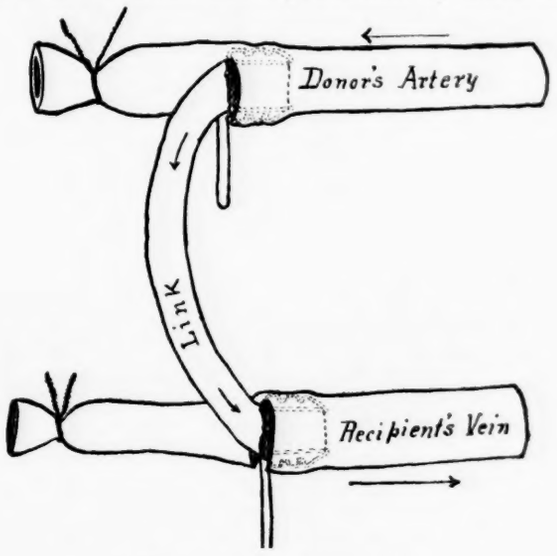

Fig. 4.—Schema of transfusion.

All the steps just enumerated may be taken without aseptic precautions. The link, stretched on its wire frame, is now placed in a wide test-tube, containing freshly prepared formalin of 2 per cent. strength (2 c.c. of chemically pure formalin of 40 per cent., in 98 c.c. of water) and well stoppered with a thick cotton plug. After twenty-four hours, using the usual bacteriologic technic, to avoid contamination, the link is transferred into a tube of sterile normal salt solution and after one-half to one hour transferred to a similar tube for the same period. These two changes serves to remove any excess of formalin, which if left, in time renders the links brittle and useless. Finally, the link is preserved for future use in sterile paraffin oil, the end of the test-tube being sealed with a blow-pipe flame (Fig. 3). The method of preservation serves to impair the resiliency of the link sufficiently to keep the lumen well open and to increase the distance between the cannula permanently, even after the wire frame is

3. Elsberg, Charles A.: A Simple Cannula for the Direct Transfusion of Blood, THE JOURNAL A. M. A., March 13, 1909, lii, 887.
4. Levin: New York Med. Jour., Oct. 3, 1908.

removed. The optimum time in formalin has been found to be twenty-four hours, but fairly effective links were obtained up to forty-eight hours. Links used direct from the formalin, or from the salt solution produces no clotting, showing that the paraffin oil is not essential. This fluid was chosen because it helps to soften the tissues, is bland, and later proves useful at the transfusion. Links kept by this method for ninety days were pliable and as elastic as thin rubber tubing.[5]

3. *Dried Links.*—We have lately tried another method of preserving the links, suggested by Dr. Carrel.[6] As applied to our work the steps enumerated in obtaining and preparing the links are the same as those previously described up to that of the placing them in the formalin solution, except that the fresh link should not be as tightly stretched. Instead of being placed in formalin the link is dried for twenty-four to forty-eight hours over fresh anhydrous calcium chlorid in the ordinary chemical drying chamber. By this time it looks dry, shriveled and brittle as parchment. It is now placed in a sterile test-tube and heated for twelve to fifteen minutes at 100 to 105 C in the dry sterilizer. The tube is then sealed. About an hour and a half before the dried link is to be used it is placed in sterile salt solution or Lock's fluid. At the expiration of that time it will have regained its normal appearance and elasticity. This method has proved excellent and has but one drawback, namely, that the great elasticity of the vessel serves partially to occlude the lumen inside the cannula, as is the case with freshly obtained vessels.

4. *Glass Tubes.*—Before describing the application of the links, it may prove of interest to mention that during the course of the experiments we attempted to use glass tubes, carefully coated inside and out with hard paraffin. In only one instance out of five did clotting fail to occur within twelve to seventeen minutes. Dr. Alexis Carrel, in a private communication, informed us that he also found glass tubes unreliable for the same reason.

The appended summary of experiments shows that of twenty-six transfusions performed with prepared links, but one failed. In this instance (experiment 15) the link had been kinked during preparation and therefore did not permit the blood to pass through at all.[7] It is now our custom to test the permeability of the link before using, by means of a small syringe filled with salt solution, in order to assure ourselves that the lumen is unobstructed and in order to wash out the paraffin oil. To favor clotting, the blood current was repeatedly interrupted. In two experiments, links inserted in the carotid artery were tied off and the blood allowed to remain within the lumen of the link for fifteen and thirty minutes without resulting thrombus formation.

EXPERIMENTS IN USE OF VASCULAR LINK FOR TRANSFUSION OF BLOOD

Experiment.	Method of Preparation of Link.	Days Kept.	Duration of Transfusion. Min.	Results and Remarks.
1	Fresh.	0	45	Good.
2	Fresh.	0	45	Good.
3	Fresh.	0	45	Good.
4	Fresh.	0	45	Good.
5	Fresh.	0	30	Good.
6	Fresh. Kept at 33 C. in NaCl solution.	10	45	Good
7	Fresh. Kept at 33 C. in NaCl solution.	7	45	Good.
8	Fresh. Kept in paraffin oil at room temperature.	14	25	Good.
9	Fresh. Kept in paraffin oil at room temperature.	14	25	Good.
10	Fresh rabbit's aorta used on dog.	0	60	Good.
11	In 2 per cent. formalin ½ hour. Kept in oil.	3	60	Good.
12	In 2 per cent. formalin ½ hour. Kept in oil.	7	35	Good.
13	In 2 per cent. formalin 2½ hours. Kept in oil.	11	35	Good.
14	In 2 per cent. formalin 24 hours. Kept in oil.	60	35	Good.
15	In 2 per cent. formalin 48 hours. Kept in oil.	20	..	Lumen not patent.
16	In 2 per cent. formalin 36 hours. Kept in oil.	20	30	Good.
17	In 2 per cent. formalin 36 hours. Kept in oil.	20	35	Good.
18	In 2 per cent. formalin 48 hours. Kept in oil.	60	35	Good.
19	In 2 per cent. formalin 48 hours. Kept in oil.	12	30	Good.
20	In 2 per cent. formalin 24 hours; 2 changes of NaCl solution. Kept in oil.	19	30	Good.
21	In 2 per cent. formalin 24 hours; 2 changes of NaCl solution. Kept in oil.	19	30	Good.
22	In 2 per cent. formalin 24 hours; 2 changes of NaCl solution. Kept in oil.	19	30	Good.
23	In 2 per cent. formalin 24 hours; 2 changes of NaCl solution. Kept in oil.	23	30	Good.
24	In 2 per cent. formalin 24 hours; 2 changes of NaCl solution. Kept in oil.	90	30	Good.
25	In 2 per cent. formalin 48 hours; 2 changes of NaCl solution. Kept in NaCl sol.	15	30	Good.
26	In 2 per cent. formalin 2½ hours; 2 changes of NaCl solution. Kept in NaCl sol.	14	20	Good.
27	In 2 per cent. formalin 48 hours. Kept in NaCl.	14	35	Good.
28	In 4 per cent. formalin 48 hours. Kept in oil.	5	35	Good.
29	In 4 per cent. formalin 19 days; used direct from formalin.	19	15	Clotted after 15 minutes.
30	In 2 per cent formalin 10 days; used direct from formalin.	10	30	Good.
31	In 2 per cent. formalin 48 hours. Kept in oil.	12	30	Good. Tied off, no clotting.
32	Dried 24 hours, heated 12 minutes at 100 C. Kept sealed.	5	40	Good.
33	Dried 48 hours, heated 15 minutes at 100 C. Kept sealed.	5	30	Good.
34	Dried 48 hours, heated 15 minutes at 105 C. Kept sealed.	3	30	Good.
35	Dried 48 hours, heated 15 minutes at 105 C. Kept sealed.	60	30	Good.
36	Dried 48 hours, heated 15 minutes at 105 C. Kept sealed.	60	30	Good. Cat's carotid used on dog.
37	Dried 24 hours, heated 12 minutes at 105 C. Kept sealed.	5	30	Good. Tied off, no clotting.
38	Glass tube coated with paraffin oil.			Clotted in 5 minutes.
39	Glass tube coated with hard paraffin inside and out.		20	Ran fairly well.
40	Glass tube coated with hard paraffin inside and out.			Clotted in 17 minutes; ran poorly after 5 minutes.
41	Glass tube coated with hard paraffin inside and out.			Clotted in 15 minutes; ran poorly after 5 minutes.
42	Glass tube coated with hard paraffin inside and out.			Clotted in 15 minutes; ran poorly after 10 minutes.
43	Dog's carotid, formalin 2 per cent. for 2 hours; oil 10 days; in Arnold steam sterilizer 30 minutes.			Lumen not patent, shrunken and distorted.

TECHNIC OF TRANSFUSION BY THE USE OF VASCULAR LINKS

About one inch of the artery of the donor, in man the radial, is exposed under local infiltration anesthesia without the use of adrenalin), no great care being exercised in freeing the vessel from its sheath. Two

5. It has been found necessary to have both the cannulæ of the wire frame gold-plated (silver-plated might do as well), as an electrolytic reaction is set up, if two different metals are used, which causes a deposit of copper on the surface of the link, thus favoring clotting.

6. Carrel: Proc. Phil. Soc. Philadelphia, Nov. 6, 1908.

7. An attempt to sterilize a link in the Arnold sterilizer proved a failure. In one experiment in which the link was kept for nineteen days in 4 per cent. formalin and used direct from this, clotting occurred.

ligatures are passed around the artery, the distal one being applied as far peripheral as possible and tied, the proximal left loose. A vein of fair size in the recipient is similarly exposed (in infants the femoral must be used), and the ligatures passed, the distal one again being tied. On both artery and vein a serre-fine is applied proximal to the loose ligature in order to stop the circulation temporarily.

The link is emptied of the paraffin oil and placed in salt solution to be ready for use. The artery is pulled out of the wound by means of the ligature and with a snip of the scissors a small transverse slit is made into its lumen. The edges of the slit are grasped on either side with two fine eye forceps and drawn apart. Through this aperture the one end of the cuffed link is introduced toward the heart (the handle of the cannula being steadied with an artery forceps) and the loose ligature tied in the first groove of the cannula. The vein is treated similarly, the opposite end of the link being inserted toward the heart, and the ligature tied. (It is well to make the slit in the vein near the distal angle of the skin wound in order to have a portion of the vein visible and palpable, as this enables the operator to see and feel the pulsation and thus control the transfusion, or at once to recognize a stoppage of the flow.) The serre-fines are now removed, the one on the vein first, and the exchange of blood allowed to proceed (Fig. 4). Throughout the manipulation both wounds should be kept well moistened with salt solution. During the transfusion the link should be supported by a gauze sponge saturated in salt solution and covered by another moist compress.

When enough blood has been obtained both artery and vein are tied off, the small injured part of the vessels being excised. The skin wound is then closed.

This technic closely resembles that so familiar in intravenous saline infusion, the infusion cannula being represented by the cuffed link. Should the opening in the artery prove too small, a very fine blunt artery forceps or scissors may be inserted closed, and then opened in order to stretch the lumen.

For adults, carotids obtained from medium-sized dogs should prove the proper size, as they are easily cuffed on the large or medium Crile tube. If a smaller cannula is desired, a cat's carotid is available, though of course much shorter in length. The stretched dog's vessel is three and one-half to four inches in length, the cat's half that. The hypothesis that clotting is due to an alien blood vessel has been disproved by the work of numerous investigators. We also have used rabbits' and cats' vessels on dogs with complete success.

TESTS OF THE STERILITY OF PREPARED LINKS

A series of links were prepared, without aseptic precautions and immersed for two to eight hours in 2 per cent. and 4 per cent. formalin. This entire series proved sterile. A similar series of links were infected with the spore-bearing *Bacillus anthracoides*, incubated for forty-eight hours, immersed for one to thirty-six hours in 2 per cent. formalin and then tested after thorough removal of the formalin. No growth took place in the tubes subjected to formalin for more than ten hours. Numerous control experiments showed abundant growth.

SUMMARY

1. The links are prepared by cuffing dog's carotids at both ends over Crile's tubes, stretching them on a wire frame and fixing them for twenty-four hours in 2 per cent formalin. The formalin is removed by two changes of sterile salt solution (thirty to sixty minutes each), and the links permanently preserved in sterile paraffin oil.

2. Of twenty-six transfusions performed by means of prepared links, but one failed (owing to kinking of the vessel during its preservation).

3. The method of preservation kills bacteria, including spore-bearers.

4. The technic if transfusion corresponds closely to that used in intravenous saline infusions.

As far as can be predicted, the use of the prepared links affords a simpler and easier method than those hitherto described, and it is hoped that it will soon receive trial on the human subject.[8]

In conclusion we desire to express our obligations to Dr. T. Mitchell Prudden for extending to us the courtesies of the laboratory, to Dr. Carrel for his kindness in permitting us to use his method of preparing vessels before he had published it, to Dr. H. Zinzer for supplying us with test cultures, and to Dr. Simons for assistance in the bacteriologic tests.

983 Park Ave.

THE INCUNABULA IN THE SENN COLLECTION AT THE JOHN CRERAR LIBRARY *

AKSEL G. S. JOSEPHSON
Cataloguer, the John Crerar Library
CHICAGO

The most interesting part of the Senn collection is undoubtedly the library of Professor Wilhelm Baum, of Göttingen, which Dr. Senn purchased at auction in 1885. Professor Baum was one of the most learned surgeons of his time and exercised a wide influence on succeeding generations of students and physicians, both as a teacher and practical surgeon, although he wrote practically nothing after receiving his degree in 1822. From 1829 to 1842 he was the head of the city hospital in Dantzig, and from 1842 to 1875 held positions as professor of surgery, first at Greifswald, afterward at Göttingen. After his retirement in 1875 he spent his leisure in collecting material for a history of surgery, though he never came so far as to write any part of it. Dr. Baum was a book collector all his life, and he placed his library most generously at the disposal of other students; it is a working scholar's library, not a bibliophile's; there are no tall copies in it, no books printed

8. Through the kindness of Dr. A. V. Moschcowitz we have recently had the opportunity of performing a transfusion on a human being by our method. Technically the operation was as simple as when performed on animals. The blood ran freely for six minutes and then ceased to flow. During this short time the hemoglobin rose from below 10 per cent. on the Sahli scale to 20 per cent.; next day it was found to be 27 per cent.

From this single trial we have learned that the method proposed is as devoid of danger as other methods. We have found that a cannula corresponding to the outside diameter of the radial artery is readily introduced into this elastic vessel, and that the link may be advantageously reduced to a length of two or two and a half inches.

The stoppage of the flow was due to a small clot at the venous end of the link, within the vein; for when the cannula was withdrawn from the vein, the blood spurted freely through the link. The only partial success of the trial was, in our opinion, due to the deposit of a copper salt on the surface of the link. This may be avoided (as mentioned in Note 5) by using cannulæ and wire frame both gold-plated.

* Read at a regular meeting of the staff of the John Crerar Library, March 24, 1909; also at the annual meeting of the Chicago Chapter of the Bibliographical Society of America, April 29, 1909. The historical data in this paper have been taken chiefly from Puschmann's "Handbuch der Geschichte der Medicin," Gurlt's "Geschichte der Chirurgie," and Sudhoff's "Tradition und Naturbetrachtung in den Illustrationen medizinischer Handschriften und Frühdrucke."

on vellum, comparatively few remarkable for rarity. The auction catalogue contains over 3,000 numbers, of which 894 come under the head of surgery, 434 under pathology, 270 under anatomy, physiology, etc., 122 under history and bibliography. Early medical and surgical writers are very largely represented, both in early and modern editions; the catalogue contains under this head about 600 numbers, and 15 or 16 of these were printed in the fifteenth century.

The object of the earliest printers was to reproduce manuscripts. If we keep this in mind, we shall better understand two peculiarities in which the incunabula and other early printed books differ from those of more modern times. It had not been the custom of the scribes to use a whole sheet of paper or vellum for a title-page; the material was much too expensive for such waste; and they were not in the habit of signing their names at the end of the manuscripts. The development of the title-page in the early printed books is an interesting chapter, but it would carry us too far to go into that subject now; as to the adding of the printer's name at the end of the book, in the colophon, I only wish to call attention to the fact that, while the scribe did not put his name at the end of the manuscript, the rubricator did, and the first book that contains in the colophon the name of its printer, the celebrated 1457 Psalterium, is particularly remarkable for its beautiful illuminated initials which were not painted by hand, but printed in colors from type, and to this fact the printers, Johann Fust and Peter Schöffer, call particular attention in the colophon.

The oldest book in Dr. Baum's library was printed in 1487, in Venice, by Baptista de Tortis. It has no title-page, nor is there anywhere in the book an indication of what its title might be; the first page is blank, the second contains the table of contents, which fills the whole page. The third page begins: "Incipit isagoge Joannitii ad tegni Galieni," i. e., "Here begins Johannitius' introduction to Galen's Microtechne," which latter is the first work contained in the volume. As a matter of fact, the volume is a collection of medical treatises, translated from the Greek into Arabic by the above-mentioned Johannitius, or Hunain ibn Ishāk, and from Arabic into Latin by Gherardo of Cremona. Other editions of the collection give it the title "Articella." Hunain ibn Ishāk was the most famous of those Arabic translators who did so much to preserve Greek literature during the middle ages. He was born in the year 809 and studied under the celebrated Mesuë in Bagdad, in which city he, after having spent some years in travel, settled as physician to the khalif; the latter encouraged him particularly in his translating the works of Greek medical writers into Arabic.

Bound with "Articella" is a copy of Avicenna's "De anima," the only edition of this work that was printed alone in the fifteenth century; the date of printing is not given, but it is probable that it was printed about the same time as the "Articella"; the printer was Antonio Carcano of Pavia. The two books are bound together in wooden boards covered by pressed leather with metal corners and clasps, though the main parts of the clasps have been broken off. On the outside of the front cover is a piece of vellum pasted on to it, with the inscription in medieval hand: "Articella Avicenna de anima."

An editio princeps of interest is the 1492 edition of John of Gaddesden's "Rosa Anglica," printed also in Pavia, by Leonardo Gerla, for Giovanni Antonio Birreta, whose mark we find on the last page. It was the 1502 edition of this book that, on account of its somewhat peculiar, though perfectly correct imprint date, caused some bibliographers and librarians to record an edition of 1516, as Mr. B. A. Finney has told.[1] The author of this book is mentioned in Chaucer's "Canterbury Tales," and it has been suggested, it would seem with good reason, that he was the model for the "doctour of phisicke" of whom Chaucer says that "in all this world ne was ther none him like"; he was certainly one of the best known medical men of his time, and his book supplies much information as to medical practice and custom during the fourteenth century.

A book that is of interest on account of its publisher, as well as the author of the first work printed in it, is a collection of surgical treatises, beginning with Guy de Chauliac's "Chirurgia magna," or, as the author himself called it, "Collectorium artis chirurgicalis medicinæ." Guy de Chauliac was, from the year 1342 to his death, some time in the decade beginning 1360, physician to the popes in Avignon and a friend of Petrarch, though the latter otherwise was not favorably inclined toward the medical profession, and particularly not friendly to the physicians attached to the papal court. The "Collectorium" is, as its name implies, a compilation, but is of more value than most books of its kind and time, and served as a text-book of surgery as late as in the eighteenth century; the introductory chapter contains a short history of surgery, and we find also in the work an eye-witness' account of the Black Death which ravaged Avignon during his residence there. In this book we have an example of an embryonic title-page which briefly enumerates the titles of the work contained in it. It is printed by Simon of Lovere in Venice, in 1499, for Andrea Torresano, whose daughter Maria this same year married the elder Aldus Manutius; after Aldus' death and during the minority of his sons, Torresano was the manager of the Aldine press. This copy has a beautifully illuminated initial on the first page and a miniature in the margin of the same page.

Giovanni Michele Savonarola, grandfather of Girolamo Savonarola, is the author of two books bound together in pressed pig skin. He was born in Padua, where he received his degree of Doctor of Medicine and later became professor at the university. His "Practica de ægritudinis," the book bound first in the volume (the second being his "Canonica"), is a general handbook of medicine, based on his observations and experience, and is regarded as one of the best medical works that have come down to us from the middle ages. Both of these books were printed by Bonetus Locatellus for the publisher, Octavianus Scotus.

Two other books were issued by the same printer and publisher—the "Practica" of Yuhanna ibn Sarapion, a Syrian, by some called Janus Damascenus, but not to be confused with the elder Mesuë, who is also known by that name; and Pietro di Argellata's "Chirurgia," in which the author, who was professor at Bologna, quite frankly acknowledges mistakes in his practice and discusses them as warnings to his students.

Another printing-press in Venice which is represented here is that of the brothers Giovanni and Gregorio di Gregorii, from which several medical works were issued, both during the fifteenth century and the beginning of the sixteenth. Four books under consid-

1. Papers and Proc. Bibliograph. Soc. of America, i, 71-74. Also Deck, George: Janus, Harlem, 1907, xii, 425-435.

eration were printed by them: Alessandro Benedetti's "Collectiones medicinæ," a small pamphlet without place, date or printer and by Mlle. Pellechet ascribed to Aldus, though Robert Proctor has since shown that the book was printed from types that belonged to the Gregorii; Bernard de Gordon's "Lilium medicinæ," highly valued for its clearness and conciseness, and which gives a good idea of the standpoint of medicine in the thirteenth century; its author was professor at Montpellier from 1285 and dictated the present work to his students in the year 1305; the book has a wood cut on the title-page to the index, that to the work itself being quite plain.

"Theicrisi," or "Altheisir," is the title of the third book in this group; it has for its author Avenzohar, the latest of the great Arabian physicians.

The fourth book, called "Fasciculum Medicine," is of interest on account of its illustrations, which are the earliest examples of anatomic drawings reproduced in wood cuts, though the present edition, printed in 1500, is not the first (the first edition was printed in 1491); the author of the book, Johannes Ketham, was a German physician, living in Italy, but of whom nothing further is known; it should be said, though, that the illustrations are not original with him; some of them are of interest for the student of the history of costume and furniture.

Mondino da Luzzi's "Anathomia" is one of the three books in the collection that were printed in Germany. It has neither place, date nor name of printer, but it was printed with the same types with which Martin Landsberg printed in Leipsic after 1492, and has, therefore, been assigned to this printer; it was printed before 1500. Mondino was the first anatomist since the time of the Ptolemys to dissect human bodies, and his book was intended as a handbook for anatomic exercises. From 1290 to his death in 1326 he was a teacher at the university of Bologna.

The other two books printed in Germany are bound together; they are not medical in character, though one of them, Bartholomæus Anglicus (or Glanvilla's) encyclopedia, "De proprietatibus rerum," contains a good deal of medical information. It was printed with types used by a printer in Heidelberg whose name is not known, but who is commonly spoken of as "the printer of 'Lindelbach,'" after the title of one of his books. The work bound together with this, Werner von Rolewinck's "Fasciculum temporum," was one of the most popular books of its time. Leo Baer, in his work, "Die illustrierten Historienbücher des 15. Jahrhunderts," enumerates not less than thirty-four editions of it printed before the year 1501; the first two editions were printed in the same year, 1474, both in Cologne, but by different printers; the present edition is one of several printed by Johannes Prüss in Strassburg in the decade beginning 1490; but it does not bear his name nor is it dated. The author of this work was a Carthusian friar and inmate of the St. Barbara monastery in Cologne, where he died in 1502, 77 years of age. He was the author of several books, both historical and theological.

One volume still remains to be mentioned, though it is likely that it should not have been classed among the incunabula. It is an anonymous edition of the "Regimen Sanitatis Salernitanum," with Arnoldus de Villanova's commentary, a versified essay on hygiene prepared by the physicians connected with the famous school of Salerno for the benefit of Duke Robert of Normandy, who in 1096 visited his relative, Duke Ruggiero of Salerno, on his way to take part in the first crusade. Hain, Mlle. Pellechet and other bibliographers count this edition among incunabula, but Robert Proctor does not include it in the first part of his "Index to Early Printed Books in the British Museum," but merely refers to it as being "not fifteenth century." For my part, I have not been able to come to any definite conclusion, but have followed the lead of the majority in assigning to it tentatively the date 1500; I may say, however, that I have not been able to identify the type with which it is printed with any of those described in Haebler's "Typenrepertorium der Wiegendrucke"; when the section for Italy of the second part of Proctor's "Index" appears we shall probably be able to determine the date of the book; it is also probable that a closer study of the wood cut on the title-page will help to solve the problem.

STREPTOCOCCIC INFECTIONS OF THE THROAT *

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During the past few months a great deal of attention has been attracted to the subject of streptococcic infections of the throat, and there have been two contributions to the literature of the subject which are of more than ordinary interest. At the Chicago meeting of the American Medical Association last June, Dr. Alice G. Bryant, of Boston, read a paper[1] describing a series of cases in which the infection fastened on the so-called adenoid tissue found in the pharynx, and in which there were marked symptoms of infection, with temperature ranging from the neighborhood of 100 to 104 F., and at times a free discharge from the nose of a creamy consistency, masses of adenoid tissue sometimes being found in this discharge. Bacteriologic examination of the discharge in the cases reported by Dr. Bryant showed streptococci in abundance.

By far the most interesting article that I have seen on the subject, however, is that by J. O. Hollick,[2] Medical Officer to the Midland Counties (England) Idiot Asylum, in which is reported an epidemic of streptococcic or "septic" throats which prevailed in the asylum during April of last year, also a similar epidemic in his private practice. The first outbreak was thought to be due to the Klebs-Loeffler bacillus, but bacteriologic examination showed an absence of diphtheria and diphtheroid bacilli, with a plentiful growth of both streptococci and staphylococci. The epidemic occurred first among the nursing staff, and then spread to a number of the inmates. The general symptoms are summarized by Hollick as follows: malaise and pains in the back and neck were prominent, and violent headache in a few cases; no vomiting or other abdominal symptoms. Evening temperature often rose to 104, morning temperature 100 Fahrenheit. Slight soreness existed on one or both sides of the throat and difficulty in swallowing; the submaxillary and glands adjacent to the angle of the jaw and in the triangles of neck enlarged and tender. One or both tonsils showed creamy

* Read before the Memphis and Shelby County Medical Society, March 2, 1909.

1. Streptococcic Infections of the Pharyngeal Adenoid Tissue in Adults, THE JOURNAL A. M. A., June 13, 1908, l, 1963.

2. Lancet, London, Dec. 19, 1908.

white secretion, with angry-looking areola of inflammation extending to the anterior pillar of the fauces, and the uvula was often swollen and intensely edematous. There were no points of follicular exudation on tonsils. Urine febrile, and in some cases slight traces of albumin. The exudation rarely extended beyond the anterior pillars of the fauces to the front, or beyond the posterior pillars behind, but much mucopurulent secretion was observed to exude from the lymphoid follicles over the vault of the pharynx, and signs of nasal obstruction pointing to a general engorgement of the lymphoid tissue around the posterior nares and extending through the nares anteriorly were often evident. The exudate in no case extended over the soft palate or uvula. In from two to four days, according to the severity of the infection, the symptoms and local signs decreased, glandular swelling and tenderness remaining for some days or weeks after clearing up of the other symptoms. A tendency to relapse was shown in several cases after subsidence of the temperature.

No sooner had this epidemic abated than one of a similar but severer character occurred in Hollick's practice at a private preparatory school in the same neighborhood. There was a history, before the beginning of the epidemic, of one boy returning to school who had had a sore throat which had imperfectly cleared up. In two or three weeks later a boy was seized with convulsions, and when Hollick saw him after the abatement of the seizure, his temperature was 103 F.; he complained of no sore throat, but his cervical glands were enlarged and tender. When seen next day he had a creamy secretion over both tonsils, but not extending onto the palate, uvula, or faucial pillars. There was much angry congestion over the latter, and he now complained of much difficulty and pain on swallowing. Four other boys on this day were put to bed with rise of temperature, tenderness over the cervical glands, headache, malaise, and some pain on one or both sides on swallowing. One of these showed much cervical glandular enlargement and had a more suspicious look about his fauces and tonsils than the rest. A swab from his throat showed Klebs-Loeffler bacilli. He was treated with 4,000 units of antitoxin. It proved to be a severe case of diphtheria of the fauces and nares, with marked heart and kidney trouble, and the patient succumbed fourteen days after onset of symptoms of cardiac failure.

Swabs from other throats showed Hoffman's diplococci and streptococci but no diphtheria bacilli. Boys fell down like ninepins, says Hollick; in all thirty cases developed, but only in one other of these was the specific bacillus found, this case proving, however, to be very mild.

Hollick calls attention to the well-understood possibility of a "diphtheritic" supervening on or accompanying a "diphtheroid" infection, or of a streptococcal infection going hand and hand with both and gaining sometimes the upper hand.

My reason for quoting so freely from Hollick's article is that he very accurately describes a condition which has prevailed during the past winter to no little extent in Memphis, and also in the surrounding country, and because his experience has been similar to a recent one of mine.

Recently I have had a number of cases of mixed streptococcic infection of the throat to deal with, and the severity of the symptoms in these cases has at times corresponded with some of the cases reported by Hollick. I shall here report more or less in detail some of the cases that have come under my observation.

CASE 1.—*History.*—Lavina M., aged 7, seen through the courtesy of Dr. J. A. Crisler, of this city, was brought to my office on November 1, 1908, with a history of having had a severe headache and fever about a week before, since which time her nose had been stopped up and she was unable to breathe through it at all, especially at night. She had been complaining of sore throat for several days, and the mother stated that while she had no thermometer, she was convinced that the child had been having fever. In the meantime, distressing to relate, the child had been going to school.

Examination.—This revealed a confluent pseudomembrane on both faucial tonsils, and extending back onto the pharynx, involving the lateral pillars. Both nares also were filled with this pseudomembrane. There was considerable glandular enlargement on each side of the neck. There was no elevation of temperature (axilla). On removal of portions of the pseudomembrane from the tonsils and pharynx a bleeding surface was left. Swabs and pieces of membrane were immediately taken from the throat and also from the nose, and culture tubes inoculated. Repeated examinations made from these tubes revealed no diphtheria bacilli, but streptococci were found in abundance associated with staphylococci.

I did not see the child again, but heard later that she was entirely well.

As an infection-carrier this patient certainly was a good example, and the anomalous condition of a pseudomembrane, but no diphtheria, was present.

CASE 2.—*History.*—Charles M., aged 12, was seen by me at his home Dec. 30, 1908. The child had a sore throat and headache, with high fever, for a day or two, accompanied by a purulent discharge from both nares. There was a very disagreeable odor to the nasal discharge, which was detected immediately on entering the room.

Examination.—The boy's throat showed a creamy exudate on either tonsil, without any extension to the soft palate or pharynx. There was a similar creamy discharge from both nares. There was no membrane whatsoever. The submaxillary glands on both sides were considerably enlarged. Temperature at this time was 101.4 F., pulse 102 and very full.

Course of Disease.—The opinion expressed by me to the boy's mother was that the case was very suspicious of faucial and nasal diphtheria, and instructions given to isolate the patient. The next morning at 9 o'clock the temperature was 99, pulse 90, and the child much better. Convalescence was uninterrupted. Cultures made from swabs taken from both nose and throat revealed almost pure streptococci, diphtheria bacilli not being found on repeated examinations.

CASE 3.—Corinne M., aged 5, sister of previous patient, developed a sore throat, running nose and considerable fever January 9.

Examination.—When seen by me on the 10th the faucial tonsils showed some creamy exudate, with no extension from the tonsils, temperature 102 F., and some enlargement of the submaxillary glands. There was also the same discharge from nares as seen in the previous case, accompanied by the same odor. Swabs were immediately taken from the nose and throat. When the patient was seen next morning the temperature was the same—102 F., pulse 104, and submaxillary glands somewhat more swollen. Bacteriologic examination of spreads from cultures showed a mixed infection of streptococci and staphylococci, the former in great majority, no Klebs-Loeffler bacilli being found in the cultures grown from the swabs taken from either the nose or the throat. On this second morning I suggested antitoxin, but the mother was prejudiced against this agent, saying that she was more afraid of antitoxin than diphtheria, and despite some suspicious symptoms at this time, I did not feel that in the face of this prejudice and the negative bacteriologic report I should urge the use of the serum. Inasmuch as I was very suspicious of the condition of this second child, I repeatedly called for reports from the cultures, but frequent examinations, and these made by several competent physicians, failed to reveal Klebs-Loeffler bacilli.

Course of Disease.—The next morning the child's temperature was normal, pulse 102. The following morning the mother telephoned me that the temperature was 102, and in the afternoon 100 F. At 8 o'clock in the evening the child began to bleed freely from the right naris, and after ineffectual attempts on the part of the mother to control this I was called and reached the house at 11 o'clock. I soon succeeded in controlling the hemorrhage, which I judged was septic in character. The next day, the 13th, not being satisfied with the condition presenting, I again asked for a bacteriologic report, and was told then that a few Klebs-Loeffler bacilli could be found in one of the cultures. The child was immediately given 5,000 units of antitoxin and such supportive treatment as was regarded necessary. The urine was found to contain considerable albumin. The morning of the 15th 3,000 units more of antitoxin were given. Temperature at this time (rectal) was 101.6 F., and pulse 76. The child raised herself up about 12 o'clock that day, collapsed and died.

CASE 4.—Miriam M., aged 14, schoolgirl, sister of the previous two patients, developed sore throat and temperature of 102 F. the night of January 14. The next morning a creamy exudate was found on both tonsils, with considerable faucial congestion, but no extension to surrounding parts. The exudate on the tonsils in this, as in the previous cases, had nothing characteristic of diphtheria about it. Five hundred units of antitoxin had been given the child the night before, and 3,000 units additional were now given her. There was no nasal discharge. Cultures from the child's throat showed an abundance of streptococci with some staphylococci, but positively no diphtheria bacilli. Swabs were taken morning and evening, thus giving a control. There was no albumin in the urine.

This case ran practically the same course as that of the boy Charles, who had received no antitoxin; and this patient (Miriam M.) was apparently free from the effects of the disease forty-eight hours afterward. Repeated examinations of the cultures grown in this case made by several competent men showed an entire absence of diphtheria bacilli.

This series of cases in one family had some very peculiar features. Every effort was made to ascertain the presence of diphtheria bacilli, and the cultures were made from swabs vigorously rubbed over the exudate in all the cases, and grown on Loeffler's blood serum mixture. Dr. B. W. Fontaine, who very kindly grew the cultures and made the bacteriologic examinations in his laboratory, was not contented merely with his examinations, but had several other men to study the slides with him. The case last reported ran the same course as that of the first case in the family, and the antitoxin could not be said to have exerted any influence on the course of the disease, for the duration of this case was no shorter than that of the boy who was not given antitoxin. In the case of the child who died, there was an entire abatement of the symptoms for one day, and it seems as though in this case the mixed infection here presented was characterized by an inhibition of the growth and effects of the diphtheria bacilli due to the preponderance of streptococci. This has been observed in other cases, and it has been my experience, and I am sure that of others, that where we have this virulent type of mixed infection a fatal termination is almost inevitable, and antitoxin given even in the earliest stages lacks the potency which seems to be associated with its use in infections with the pure Klebs-Loeffler bacillus. Kyle[3] says, "The presence of streptococci, in addition to the *Bacillus diphtheriæ,* augurs ill for the patient, because to their effects are due the complications of the more malignant character." The fatal termination in this case was probably further assured by the violent septic hemorrhage, which doubtless weakened the child considerably, although this was not shown by the condition of her pulse the next day. Considering the readiness with which diphtheria bacilli are grown on proper culture media, the ease with which they are isolated, and also the repeated examinations of the cultures in these cases, there could be no question of faulty technic causing failure to find the specific bacillus in those cases here reported as failing to reveal this. Furthermore, there was nothing characteristic of diphtheria in the tonsillar exudate, and the clinical course of the disease in all but the fatal case was unusually short, while the temperature ran much higher than commonly is found in diphtheria, and in none of these cases was there any membrane whatsoever, nor extension from the tonsils, features diagnostic of diphtheria. The diphtheria infection in the case of Corinne M. probably was secondary in its effects to the streptococcus infection, and the virulent mixed infection very likely would have been fatal under any circumstances.

Before passing from this series of cases, I should also mention that a young nurse, probably 19 or 20 years of age, who, for about forty-eight hours, was with the patient who died, was taken sick the night that she left the house, and the following morning had an exudate on her tonsils similar to that of the cases reported. The serum tube inoculated by me from her throat grew immediately a culture of streptococci with a few diphtheria bacilli. This girl received, I believe, about 800 units of antitoxin, but was practically over the attack in forty-eight hours.

CASE 5.—R. T. C., male, aged 34, came to my office with temperature of 100 F., a slight exudate on both tonsils, and some glandular enlargement. Culture showed streptococci and staphylococci, the former predominating. This patient did not stop work, and was free of fever in about two or three days after I first saw him.

The next case is more interesting.

CASE 6.—*History.*—Miss Virginia G., aged about 30, seen through the courtesy of Dr. Edward D. Mitchell, began to have severe sore throat about a week previous to the day that I first saw her. She had some pain in the right side of her chest a week before this, but no symptoms of pneumonia. Her fever had been running as high as 104 F. in the afternoons, but was usually lower in the mornings. The throat pain was quite severe, being more pronounced in the right side, and reflected to the ear. The back of the head and neck on this side were very tender.

Examination.—This showed considerable faucial congestion, with some edema of the soft parts—edge of velum palati, etc. There was no exudate on the tonsils at all. The right cervical glands were enlarged and tender, and the least pressure seemed to cause excruciating pain. The temperature at the time that I first saw the patient was 102 F.

Course of Disease.—Ice to the back of the neck and a fever mixture were ordered, and the next morning the temperature was normal and the patient felt decidedly better. The following day, however, I received a message that she was suffering greatly, even more than she had at any time previously. On calling at the house I found the throat in the same condition of congestion as before, and the glands just as swollen and painful. Her temperature was 101 F. While there was nothing showing in the throat other than congestion, I swabbed the affected side and inoculated a culture tube. The same treatment as previously advised was continued. The next day the patient was decidedly better, and convalescence was uninterrupted. The culture showed a mixed growth of streptococci and staphylococci.

3. Diseases of the Nose and Throat, 1907, p. 488.

Marschik[4] recently reported from Chiari's clinic a case of septic hemorrhagic pharyngitis occurring in a man 54 years of age, which ended fatally in fourteen hours, and in which the streptococcus was found in almost pure culture. While ordinarily we do not expect a streptococcus infection of the throat to terminate fatally, yet we are not justified, apparently, in giving a favorable prognosis in any of these cases, since we can not determine when the condition may assume a malignant type. Bearing this statement out is the history of a case recently seen by me in consultation.

CASE 7.—*History.*—On March 10, 1909, I was asked by Dr. E. M. Holder to see Mrs. P., aged about 32, who had been under his care for about three weeks. Dr. Holder stated that when Mrs. P. came to him at first she had an eruption over her body which he regarded as a possible lues, and for which he gave her mixed treatment. There were also some rheumatic symptoms. This eruption disappeared, and a short while afterward the patient developed considerable glandular enlargement of the left side of the neck, there subsequently being some soreness of the throat. This enlargement was at first confined to the glands, but later involved the periglandular tissue, until it resembled an acute phlegmon. The patient had been having some fever and was flighty at times. She was sent to the Presbyterian Hospital the morning of the day that I saw her, and an incision was made by Dr. Holder through the most boggy portion of the involved area, but pus was not found. A few days prior to this a clear blister resembling pemphigus was noticed on one finger, but no other blebs were found. The patient was very much depressed, and seemingly in a grave condition from the sepsis.

Examination.—I found Mrs. P. in a lethargic, almost stuporous condition, but mentally clear. Her temperature was 99.4 F., with small, fast pulse. There was a large and brawny swelling of the glands and periglandular tissues of the left side of the neck, especially marked low down toward the clavicle. No fluctuation was detected anywhere. The throat showed no distinct peritonsillar swelling, and there was no exudate on the tonsil, although there was some edema of the uvula. I inoculated a culture tube with a swab which had been rubbed over the peritonsillar region of the left side of the throat, and the next morning received a report of a rich growth of streptococci.

Course of Disease.—This patient was being given supportive treatment by Dr Holder, and nothing else was regarded as advisable. The case went on to a slow recovery. The prostration in this case was very marked, and an excellent illustration of the virulency of the infection.

Memphis Trust Building.

ADVERTISING BY PHYSICIANS*

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A discussion of the ethics of advertising may at first seem superfluous to the respectable physician, or, at least, not to interest him personally. "A gentleman," he will say, "knows how to conduct himself without consulting a written code. Reputable physicians do not advertise, and therefore nothing more need be said on the subject." But we are sometimes called on to pass judgment on the acts of others, and then the dictates of a sound conscience, which are sufficient to determine one's own conduct, require to be formulated into rules, in order that we may proceed with that order essential to justice. But, besides, is it true that reputable physicians do not advertise? Is it not rather true that all physicians, consciously or unconsciously, willingly or unwillingly, advertise and are advertised?

Is the trail of the serpent, then, over us all? Not at all. For there is objectionable advertising and unobjectionable advertising, differing in form, but still more in intent, and the gulf between the charlatan and the true physician exists, not from the fact that the one advertises and the other does not, for both do, but from the kind of advertising practiced by each.

I can almost see the hot wave of anger mounting to the faces of some of my honest friends at these words, while they can hardly suppress the vigorous protest rising to their lips. But, my dear doctor, have you never had a card printed with your name, address and office hours? I admit that it was not intended for advertising purposes, but is it not at least potentially an advertisement? Do not your name, occupation and address appear in the city and telephone directories? That, you say, is merely for the convenience of your patients, but, none the less, there it is, plain for all men to see. Have you no sign on your door or window? You don't mean it as an advertisement, maybe, but it is one, all the same. And your biggest and best paying advertisement is your title of "Doctor" by which you are everywhere addressed.

Let us then consider what is proper in the way of advertising, and what is not. And first let us see in what set terms the wisdom of our profession in this country has from time to time expressed itself on this subject. It will be useful not only to cite the text of the national pronouncement now recognized, but also from codes and similar formulas in force in earlier times and in various parts of the land, inasmuch as we wish to know not only the written law which can be invoked to-day, but the sentiment of the American profession on this subject from its earliest expression. We need not be surprised if we find the oldest and the newest in close accord.

The earliest dictum on this subject I have found is one by the New York State Medical Society. On Feb. 27, 1823, "A System of Medical Ethics" was reported to that body by a committee appointed for that purpose, and was adopted.[1] We read under heading "Quackery," Division II, Section 6:

> Public advertisements or private cards, inviting customers afflicted with defined diseases; promising radical cures; engaging for no cure, no pay; offering advice and medicines to the poor, gratis; producing certificates and signatures even from respectable individuals in support of the advertiser's skill and success, and the like, are all absolute acts of quackery, which medical institutions should always repress and punish by the rejection or expulsion of those who commit them.

The American Medical Association, at its first annual session, in May of 1847, adopted a "Code of Ethics,"[2] which continued as its formal expression until superseded by the "Principles of Ethics" in 1903. We read in the "Code," Article I, Section 3:

> It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or handbills, inviting the attention of individuals affected with particular diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures, or to publish cases and operations in the daily prints, or suffer such publications to be made; to invite laymen to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics and are highly reprehensible in a regular physician.

4. Monatsschr. f. Ohrenh., xliii, No. 1.

* Read before the St. Louis Medical Society, Feb. 6, 1909.

1. Tr. Med. Soc. State of N. Y., Volume for 1807-1831, p. 233. Reprinted 1861, p. 282.

2. First published in the Transactions xviii, 523. Before that it appeared in a small pamphlet.

The Code of Ethics was adopted by the St. Louis Medical Society June 18, 1850.

The Massachusetts Medical Society, Feb. 4, 1880, adopted a Code of Ethics.[3] Its provisions on the subject of advertising are very brief and concise:

He (the physician) should not . . . advertise himself or his practice in public print.

In 1882 the Medical Society of the State of New York adopted a code of its own, varying from the code of the American Medical Association in some important particulars, chief among which was the matter of consulting with irregular practitioners. This "New Code," as it came to be called, was adopted February, 1882, by a vote of 52 to 18. That year the delegates of the state society were refused admission to the American Medical Association by the Judicial Council, and remained out until 1906. This led to the formation of the New York state and county medical associations in affiliation with the American Medical Association.

In the matter of advertising, however, the New Code was, if anything, more stringent than the old. I reproduce the section in question, placing in italics the words not found in the old code. The final sentence of the latter, beginning, "These are the ordinary practices of empirics," was omitted from the New York document:

It is derogatory to the dignity *and interests* of the profession *for physicians* to resort to public advertisements, private cards or handbills, inviting the attention of individuals affected with particular diseases, publicly offering advice and medicine to the poor, *without charge*, or promising radical cures, or to publish cases and operations in the daily prints, or *to suffer* such publications to be made; *or through the medium of reporters, or interviewers or otherwise, to permit their opinions on medical or surgical questions to appear in the newspapers;* to invite laymen to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to perform other similar acts.

The American Medical Association adopted, March 28, 1891, certain "ordinances" supplementary to the code, and binding equally with the original document. Among these were the following:[4]

Resolved, That it shall not be proper for specialists publicly to advertise themselves as such, or to assume any title not specially granted by a regular chartered college.

Resolved, That private handbills, addressed to members of the medical profession, or by cards in medical journals, calling attention of professional brethren to themselves as specialists, be declared in violation of the Code of Ethics of the American Medical Association.

These ordinances, now superseded by the Principles of Ethics, have been widely disregarded, as is evidenced by the frequent use of the words "practice limited to" such a specialty on the cards of men generally and properly rated as in good standing.

At the meeting of the American Medical Association at Saratoga Springs in 1902, a resolution was offered in the House of Delegates[5] to the purpose that the revision of the code approved by the council of the New York State Medical Association (in affiliation with the American Medical Association) be examined by a committee and reported on in 1903. The resolution being adopted, a report was accordingly submitted the year following, differing widely in some particulars from the letter, although not from the spirit of the old code. The report says:[6]

The caption, "Principles of Medical Ethics" has been substituted for "Code of Medical Ethics" . . . the committee deemed it wiser to formulate the principles of medical ethics without definite reference to code or penalties. Large discretionary powers are thus left to the respective state and territorial societies to form such codes . . . as they may consider proper, provided, of course, that there shall be no infringment of the established ethical principles of this Association.

These "Principles" were unanimously adopted by the House of Delegates, at New Orleans, on May 7, 1903. The language of the principles in reference to advertising is as follows:

ART. 1. SEC. 7. Advertising methods to be avoided.

It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases; to promise radical cures; to publish cases or operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success, or to employ any of the other methods of charlatans.

The St. Louis Medical Society, besides subscribing from the first and ever since to the Code, Ordinances and Principles of the American Medical Association, has from time to time enacted by-laws of its own, prohibitive of advertising and related methods. Thus we read in the "Constitution and By-laws," published in 1896, as follows:

BY-LAWS, ART. 1, SEC. 13: No person holding any patent, or part thereof, for medicines or secret remedies for disease, or who shall, by publication in newspapers or otherwise, announce his pretensions to superior qualifications in any particular disease or diseases; or who shall resort to public advertisements, or private cards or handbills, inviting the attention of individuals affected with particular diseases; or publicly offer advice or medicine to the poor, gratis; or promise radical cures, or publish cases or operations in the daily prints, or suffer such publications to be made, or invite laymen to be present at operations, or adduce certificates of skill and success, or perform any other similar acts, shall be eligible to (or) retain membership in this Society.

In 1900 (By-laws, Art. XXIV, Sect. 2) the above language was repeated almost exactly, and there was added to the list of reprehensible practices "the announcement of the use of secret methods of cure" and "paying or offering any salary, bribe or commission in return for patients procured, or accepting the same, or employing others to do any of these things, shall, among other things, be considered gross misconduct in the sense of the preceding section."

Our present by-laws (adopted October, 1907) do not enumerate various forms of misconduct, but specifically endorse the Principles of Ethics of the American Medical Association in the following language:

BY-LAWS, CHAP. 1, SEC. 5. Misconduct.

Any member guilty of gross misconduct, either as a physician or a citizen, or of violating any of the provisions of this Constitution and By-laws, or the Principles of Medical Ethics of the American Medical Association, shall be liable to censure, suspension or expulsion.

Having thus reviewed the letter of the law as formulated in various times and places, let us seek to penetrate its true spirit, and thus learn in what ways it is proper, if any, for the physician to bring himself to the attention of the public.

Advertisements, or let us say notices, addressed by the physician to the public, may be divided into five classes.

3. Bost. Med. and Surg. Jour., 1880, cii, 256.
4. Tr. A. M. A., 1869, xx, 28.
5. THE JOURNAL A. M. A., 1902, xxxviii, 1649.
6. THE JOURNAL A. M. A., 1903, xl, 1379.

1. Those which are not only uncondemned by the Principles of Ethics, but which are in use everywhere and by the most conscientious physicians. These consist of signs usually not exceeding a foot or two in length, in modest colors, suspended in front of the office, or affixed to a wall or door, or inscribed on a window, setting forth the doctor's name, sometimes with the addition of his hours; and of cards similarly modest in appearance and statement, such cards never to be promiscuously distributed. Even such cards are employed rather as convenient memoranda of the physician's address and hours than as advertisements, although they may unquestionably be applied to the latter purpose by overzealous friends and admiring patients into whose hands they fall.

2. Those not condemned by the Principles of Ethics and in use in certain communities and by certain individuals of unquestioned respectability, while avoided by others. They consist of simple business cards inserted in lay publications, containing the same matter as the ordinary office card. Such announcements were in general use in this country a generation or two ago, are still in common use by practitioners in the smaller towns and in many large cities by practitioners having a foreign-speaking clientele. They are virtually obsolete among English-speaking metropolitan physicians. It might be said of these that they are rather intended as memoranda of address, hours, etc., to those already secured as patrons than to attract new practice. The use of such announcements in certain places and under certain circumstances may be indiscreet, but does not call for formal condemnation.

3. Those not specifically condemned by the Principles of Ethics, but manifestly in contravention of its spirit, and as such universally deprecated by consistent and worthy physicians. Such practices come under the general condemnation of the Principles of Ethics, being included within the meaning of the closing phrase of Art. 1, Sect. 7, "any of the other methods of charlatans." The distributing of cards on the street or from door to door, the use of very large or very showy signs, or the distributing of reprints of medical articles to prospective patients or other laymen might be cited as examples, although the last-named practice will often come directly under the condemnation of "boasting of cures and remedies."

4. Advertisements, veiled in form, oftenest consisting of accounts of cures, operations, alleged discoveries, and so forth, ostensibly written by newspaper reporters, but really furnished by the physician, verbatim or in substance. These are condemned by the Principles of Ethics, are the most dangerous and vicious of all forms of advertising, and arouse the disgust and contempt of all honest men, whether in the medical profession or out of it, inasmuch as they necessarily contain an element of untruth, seeking to conceal their true character, and to secure for their perpetrators the wages of prostitution, while striving to shield them with a cloak of respectability.

Another class of newspaper articles may be mentioned in this connection, varying widely in their true nature and intent, and ranging all the way from some which are not only proper but deserving of commendation, down to those which narrowly escape an infraction of the bare text of the law.

We refer to articles in the lay press dealing with topics of medical interest, or presumably written from a medical standpoint. The subject is a delicate one, for, while it is usually easy for the discerning reader to discover the true animus of an article, whether, on the one hand, inspired by a genuine desire to instruct and benefit, or, on the other, designed to impress the reader with the writer's attainments and thus secure him as a possible patient, it none the less remains difficult to define each sort in categorical terms. Sometimes the diagnosis is made clear by the presence of pathognomonic symptoms of moral malignancy, such as a more or less flattering half-tone of the eminent professor, a list of his titles and honors, references to his performances and achievements, or again by the frequent recurrence of the first person singular. These characteristics are, however, avoided by the shrewder veiled advertisers.

Rules of general application in deciding as to the true character of such productions may perhaps be deduced from a classification according to their subject-matter.

Articles and interviews by physicians in the lay press, apart from accounts of cases and operations, which need not further detain us, are usually of one of three kinds:

1. Those containing advice.

2. Those discussing scientific points.

3. Those discussing the diagnosis or treatment of some individual case which has gained notoriety.

The advice imparted in the first class of articles may be such as any one easily can and therefore should, if need be, obtain from his regular adviser, and which therefore should not be distributed gratis and unasked. As examples we may cite such titles as "How to Reduce Your Weight" and "What to Do When Baby Has the Measles."

Or the advice may be so generally applicable as to possess real value, and at the same time be such as the reader would probably not obtain from his regular attendant, because he would not think of applying for it. As examples we may cite articles on preventive medicine, such as the prophylaxis of tuberculosis or typhoid, the precautions to be observed in times of epidemic or during extremes of heat and cold, the importance of vaccination, and of the medical inspection of schools; instruction as to first aid in drowning, heat-stroke, poisoning and the like; as to the dangers attendant on the habitual use of alcohol and other drugs, and, again, the exposing of dangerous charlatans and nostrums.

It seems evident, therefore, that of the class of articles conveying advice, some, as those of the sort first mentioned, are, to say the least, open to grave suspicion, while others, such as were last enumerated, may be of great benefit to the community, be purely altruistic in purpose, and therefore should receive the hearty commendation of the profession. This is especially true when they are written by one who is well informed in the matter, and with the ability to put his thoughts on paper, whose recognized position in the profession is such as to lend weight to his utterances, and who has already attained to such honors and rewards as to lift him above any suspicion of harboring sordid motives. The giving of instruction to the public is, indeed, specifically insisted on by the old "Code" and the "Principles" in almost identical terms.

The Principles of Medical Ethics says:

CHAPTER 3. The duties of the Profession to the Public.

Sec. 1 [in part]: They [physicians] should also be ever ready to give counsel to the public in relation to subjects especially appertaining to the profession, as on questions of sanitary police, public hygiene and legal medicine.

Sec. 2 [in part]: It is the province of physicians to enlighten the public in regard to quarantine regulations, to the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in regard to measures for the prevention of epidemic and contagious diseases.

Sec. 4. It is the duty of physicians who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of artful imposters.

Contributions of the second class, those, namely, discussing scientific matters of general interest, are unobjectionable unless so written as to direct attention to the writer rather than to the subject-matter.

Articles falling within the third class, namely, those discussing the diagnosis or treatment of cases which have become notorious, or which affect eminent personages, will, as a rule, deserve the censure of the judicious, for it can not be urged that they serve any useful purpose. The discussion, if proper at all, should be reserved for the medical press, and is out of order in a lay publication, lying, as it does, outside of the sphere of the audience which it addresses. It is difficult even for the charitable-minded to see any purpose in such effusions, except the aggrandizement of the writer.

An opinion on an illness or injury, expressed by a physician who was at no time connected with the case, is not justified by the circumstance that the sufferer is a prominent personage, or that he lives in a distant place. Such public discussion of the diagnosis or treatment adopted for the patient of another practitioner, besides being necessarily based on incomplete and uncertain information, is in itself grossly indelicate and in violation of common justice and common courtesy. These latter considerations are perhaps not germane to the subject of this paper, but it may well be suspected that a public deliverance so unnecessary and so indefensible is prompted by selfish motives. Some of my older hearers may recall certain peculiarly revolting examples of this particular brand of indecency in connection with the sufferings of the lamented President Garfield.

To this same class belong expressions in the public prints as to the sanity of noted criminals. To say nothing of the crying injustice of trying men for their lives in the columns of a daily journal, a casual glance at such learned (?) pronouncements will usually show them to be either garbed in polysyllabic technicalities unintelligible to the non-medical reader, or to deal with matters concerning which the lay mind can not correctly judge, since no subject within the periscope of our science is so difficult, so involved, so beset with subtleties and uncertainties, and so purely a matter for the specialist, as is that of psychiatry. The least grave charge that can be made against "interviews" of this sort is that they argue a weak yielding to the importunities of a reporter and to the alleged curiosity of the public as to matters which are none of their concern, inasmuch as they lie beyond their powers of comprehension. As a matter of fact, however, such articles are generally "interviews" in name only, having been carefully written out by the learned expert who hopes thus to keep within the limelight.

Another debatable form of publicity is that of the antemortem biographical notice, often accompanied by a portrait, appearing in bound collections of sketches of "distinguished" citizens, or perhaps in the Sunday edition of a metropolitan paper.

If it concern some individual of such real eminence that his personality has become a thing of interest to the intelligent public, such publication may be excusable, inasmuch as its real and its avowed purpose are then the same. Such a notice is not an advertisement, because it does not seek to create notoriety, but is its consequence. If such notoriety be the unsought fruit of genuine achievement of great value, the publication of a notice or picture may be beyond cavil. Often, however, names and faces so paraded have little claim to distinction.

It may be impossible here in every case to draw a hard and fast line between what is allowable and what is not. Practically, however, if the truth can be learned, the question may be settled, at least in the affirmative, by a simple test: Was the insertion contingent on the payment of a fee, direct or indirect? If so, it is an advertisement, although perhaps not actionable under the letter of our law. The latter point is debatable. The unworthy character of the act is not debatable. It does not follow from what was said above that a notice inserted free of charge is, therefore, not an advertisement.

5. Last among the classes of advertisements by physicians, using the last term somewhat loosely, are the flagrant, undisguised, paid advertisements, generally displaying an alleged picture of the "doctor," his chin either concealed by a patriarchal beard or appearing as a naked plain flanked by flowing side-whiskers; or the portrait may be that of a victim; the accompanying text may be simply mendacious, or again obscene or criminal. These we need not discuss, further than to say that there is something about their boldness which begets a feeling distantly allied to respect, which the more covert performances of their timid admirers and would-be imitators could never do, just as there is a lurid halo about the memory of Jesse James or of Billy the Kid, which is not shared by the Sicilian ladrones who picked the pockets of the dead at Messina.

It will be noted that in the foregoing attempt at an analysis of the subject, I have taken the term "advertising" in a somewhat restricted sense, namely, that of reading-matter of one sort or another addressed to the public. I realize that there are many other things, spoken words and actions, which are in a sense advertisements, but apart from the necessity of fixing certain bounds to a subject, and limiting its discussion within these, I feel that a classification of the wider sort mentioned into its orders, families, genera and species, would involve a dissertation on the whole moral law, and is made unnecessary by the commandment, "Thou shalt love thy neighbor as thyself."

I have also left untouched the matter of advertisements of the physician's learning and skill addressed to and intended for the profession. This subject is a very difficult one, while the evils it includes are not of the sort which cry to Heaven, for this reason, if no other, that the medical audience addressed is better able to take care of itself than is the lay public.

To sum up, we may conclude that any notice emanating from a physician which seeks to secure for him an unfair advantage over his fellows, or which departs so widely from established usages as to compromise his dignity, is an objectionable advertisement, and that the greater the pains taken to conceal its true character the deeper is its damnation.

3894 Washington Boulevard.

Clinical Notes

A CASE OF UNDIAGNOSTICATED BRAIN ABSCESS *

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Abscess of the brain is not a common affection and it is not rarely overlooked. It is almost invariably secondary to suppuration elsewhere, although it may be a sequel of direct injury to the head. Inflammatory disease of the middle ear is probably the most common causative factor. The symptoms are essentially those of a tumor of the brain plus those of a toxic-infective process. The diagnosis may be exceedingly difficult, if not impossible, without a knowledge of the etiologic agency. In the case to be reported it should have been possible to recognize the condition and to afford relief through surgical measures.

History.—A woman, aged 35, was admitted to the nervous ward of the Philadelphia General Hospital, Feb. 5, 1909, complaining of headache, pain in the back and legs and abdomen, with nausea, vomiting and pain in the left ear. The illness was said to have been of two weeks' duration and to have set in with headache, pain in the lower extremities and back, together with nausea and vomiting. There had also been diarrhea and chills, fever and sweating. The patient went to bed for a day, then arose, and again had to go to bed two days before admission to the hospital. There had been a discharge from the left ear for three months. On entrance into the hospital the temperature was 97 F., the pulse 70, the respiration 25. The temperature soon rose to 102, but it gradually declined to the normal, while the pulse at no time rose above 88 and the respiration above 25. The patient complained of headache and suffered from nausea and vomiting.

Examination.—The pupils were contracted and equal and reacted to light and in accommodation. The ocular movements were well performed and there was no nystagmus. The activity of the facial muscles was preserved and alike on the two sides except that the creases produced on wrinkling the forehead were more pronounced on the right side than on the left. The knee-jerks were slightly increased, but the remaining reflexes, as well as sensibility and the action of the sphincters, were normal. There was no noteworthy abnormality of the thoracic or abdominal viscera. There was no discharge from either ear. There was some mental confusion. The urine contained a trace of albumin and a few hyaline casts. On suspicion that the case was one of typhoid fever the patient was transferred to the medical ward, where she complained of intense headache and insomnia and exhibited marked restlessness. Intelligence was obtunded. On examination no discharge from either ear was found, nor was there tenderness over the mastoid process, even on strong percussion. The urine contained albumin and hyaline and granular casts. The hemoglobin percentage was 85 per cent., the number of red corpuscles 4,800,000, and the number of leucocytes was 10,000 in the cubic millimeter. The agglutination test for typhoid fever was made twice, and in each instance yielded a negative response.

Course of Disease.—On February 11 the patient stated that her headache was less severe than it had been and that she was resting better. On February 12 drowsiness developed, with irritability, the patient resenting interference. On February 14 she complained of nausea and on two occasions vomited a considerable amount of greenish, watery, sour-smelling fluid. The drowsiness increased, while the headache persisted in undiminished degree. Death took place abruptly early on the morning of February 16.

Autopsy.—A large amount of turbid, greenish pus of foul odor, together with a small amount of diffluent brain tissue, escaped when the calvarium was removed and the adherent dura on the left side incised. The middle and lower temporal convolutions of the left cerebral hemisphere were the seat of an abscess communicating with a sinus in the petrous portion of the adjacent temporal bone, and this in turn was the continuation of a larger abscess in the middle ear. The bony portion of the internal ear was also involved in the destructive process. The kidneys were the seat of acute inflammation; the myocardium was involved in fatty infiltration and fatty degeneration, and the liver was the seat of fatty infiltration.

The case was at the beginning supposed to be one of typhoid fever, but the early decline of the temperature, together with the absence of the specific agglutinating reaction, negatived such a diagnosis. The absence of pain, tenderness and swelling about the ear and of discharge, as well as of cerebral symptoms of a localizing character, especially when taken in conjunction with the slight changes in temperature, pulse and respiration, diverted attention from the head, although the persistent and intense headache, the nausea and vomiting, the inequality in action of the two sides of the forehead, and the mental impairment, especially in conjunction with the leucocytosis, the history of previous ear disease and of chills, fever and sweating, should have awakened suspicion of the real condition. The state of the urine also contributed to the confusion, as uremia had to be considered as a possible cause. It is to be regretted that an examination of the eyegrounds was not made, as a unilateral lesion would have been a most significant finding.

1019 Spruce Street.

* Read before the Philadelphia Neurological Society, April 23, 1909.

A DELICATE TEST FOR BILE IN THE GASTRIC CONTENTS

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In making chemical analyses of the gastric juice siphoned off one hour after a test meal, I have frequently observed that the specimen before and after filtration would have a decided greenish tint, suggesting either bile or gastrosia fungosa (mold in the stomach) and on testing some of this filtered gastric juice for bile by the nitrous acid method, I have often been surprised that no reaction would be given.

On April 17, 1909, after siphoning off the gastric contents from a patient I observed that the specimen had a grass-greenish tint. I allowed the gastric contents to pass through some ordinary white filter-paper, and on testing this filtered gastric juice for bile by the nitrous acid test I obtained no reaction. The filter-paper, especially the upper edge, was stained quite green in color, and I could not persuade myself that bile was not present, or else that the case was one of gastrosia fungosa. The filter-paper was removed from the funnel, and that portion of the gastric contents, consisting of mucus and remnants of test breakfast, which did not pass through the paper was scraped off. This filter-paper was laid aside to dry during a period of several days. Four days later, on April 21, this dried filter-paper still had a greenish appearance, especially around the edges. On moistening these greenish areas with nitrous acid I observed the play of colors characteristic of the bile reaction, the green color first changing to a faint reddish tint, which lasted a few seconds, then being followed by blue, and after two to five minutes changed to a brownish tint. Thinking that the same reaction could be perhaps obtained by using the filtered gastric contents, I then passed some of it back through another piece of white filter-paper, and, when it was thoroughly dry, applied the nitrous acid test as before, but obtained no reaction, owing, no doubt, to the fact that the viscid

bile had not passed through the filter-paper in sufficient quantity to respond to the nitrous acid test.

In testing the gastric contents for bile, one should allow the gastric juice to pass through white filter-paper, and when it has become dry one should then apply the nitrous acid test to this filter-paper, instead of testing the filtered gastric contents; otherwise bile in the stomach may escape detection. This reaction is best observed in a somewhat shaded portion of the room.

HAT-PIN IN THE MALE URETHRA

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The report by Dr. B. Clark Hyde in THE JOURNAL, March 12, 1909, p. 885, of a case of shawl-pin in the male urethra reminds me of a similar case which happened in my practice in 1886.

Mr. ——, aged about 40, married, came into the office stating that he was carrying a hat-pin about in his urethra. Examination demonstrated that something was there. He admitted that he had been masturbating with the hat-pin when it escaped his grasp and got away. He had consulted several physicians: the result was considerable laceration of the urethra, a meatus enlarged by incision, quite a bit of swelling and some hemorrhage. The bead end could be felt in the membranous urethra and the sharp end had engaged in the upper urethra, about an inch from the meatus. Realizing the futility of fishing for it with forceps, I at first introduced a small pipette into the penis, hoping to maneuver so as to engage the sharp end of the pin and so remove it. This I was unable to do, possibly because I did not persist in trying, as a simpler method suggested itself, nearly the same as that pursued by Dr. Hyde. I bent the penis at a right angle to the direction of the pin, thrust the sharp end of the latter through the urethra and skin, then drew it out until the bead stopped it. Reversing the direction, the bead end was pushed out through the meatus and the pin easily withdrawn. The patient did not return, so I can not state the later history.

Therapeutics

SCIATICA

The sciatic nerve is one of the frequent locations of nerve pain, and is perhaps more frequently the location of a neuritis or a perineuritis than any other nerve of the body. All possible causes of the condition must be sought for and found or excluded, and before a general condition, or a condition of the blood, is decided to be the cause of the neuralgia or inflammation, all local reasons should be excluded.

A frequent cause of sciatica in women is pressure on the nerve in the pelvis, either from uterine displacements, uterine enlargements, tumors or inflammation that has extended and caused pressure.

Constipation, with fecal matter remaining long in the lower bowel, is also a not infrequent cause of sciatica, and such a condition of the loaded sigmoid is a not uncommon cause of left-sided sciatic pain.

Gout and rheumatism certainly are many times the cause of sciatic neuritis.

Exposure to wet and cold, especially when the feet become wet and chilled, or sitting on cold stones, or long sitting on hard-bottomed chairs may be the initial cause of a sciatic neuritis.

Pain in the lumbar muscles, lumbago or lumbar myalgia, is often followed by pain in one or the other, or both sciatic nerves; or both conditions may be present at once. In fact, frequently when there is no evident abdominal or pelvic excuse, a lumbago is followed by pain in a sciatic nerve. A not infrequent cause of a lumbago is too lax springs and a too comfortable bed. This is especially true when the person is of heavy weight. A stiffening of the bed springs and a straightening of the bed will often be sufficient alone to stop this kind of pain which is so frequent, and also so frequently extends to the sciatic nerves.

A weakening of the plantar arch and an attempt of the person involuntarily so to step and stand as to relieve the ache in the ankles and feet will cause abnormal muscle tension, even of the thighs, and a sciatic pain can be caused from this reason, to say nothing of the frequent pain in the knees from this cause.

Uricacidemia, and even an increased acidity of the urine, with bladder irritability, is often a concomitant condition with sciatica. The sluggish circulation due to an imperfect heart action or to a varicose condition of the leg may be a predisposing cause of sciatic pain. It is hardly necessary to mention the occasional causes of sciatica, as diabetes, malaria, syphilis and hip-joint or knee-joint disease.

Consequently, before beginning any local or general treatment for sciatica, the patient should be carefully examined and any local cause found, the circulation investigated, the urine analyzed, and the intestinal digestion and activity learned. It should also be determined whether the pain is due to neuralgia, i. e., a simple irritation of the sciatic nerve, or whether there is an actual neuritis or perineuritis, which may be determined by excessive tenderness, pain on stretching the nerve (as by thoroughly extending the leg) or by a beginning anesthesia in any part of the distribution of the nerve.

It is not necessary to urge the necessity for removing local pressure, if such has been found, before it could be expected that the sciatica or the neuritis could be made better. Free elimination from a calomel, castor oil, or saline purgative, and subsequent daily free movements of the bowels is certainly a large factor in the successful treatment of sciatic trouble. The character of the diet should be determined by the condition of the patient. If the patient needs nutrition, the most nutritive diet possible should be given, and, in fact, perhaps hyperalimentation given. On the other hand, if the patient is plethoric, has been a high liver, eating largely of proteids, especially meats, a vegetable and limited diet for a time, at least, is the best. If the circulation is impaired, it should be aided. If the circulation is good, plenty of water should be given to aid the eliminative process by the kidneys. Hot daily tub baths, a Turkish bath twice a week, or a body hot-air treatment twice a week, are all adjuvants in the treatment of sciatic inflammation that are far ahead of medicinal treatments. The body hot-air treatment is most efficacious when rheumatism is the cause of the condition, and no treatment is perhaps more successful. This is also especially true when there is kidney insufficiency. The promotion of the circulation in the skin and the increase of the excretory ability of the skin is a large factor in the benefit derived from such treatment.

Occasionally the attack of sciatica comes on suddenly, but generally it is gradual in its development, and the longer it has persisted the more difficult is it to cure; consequently, sciatica, even in mild form, should not be neglected.

It is probable that the shooting pains down the sciatic nerve, momentary perhaps in their duration, are caused by contractions of the pyriformis muscle, which compresses the sciatic nerve. It is also probable that

this muscle sometimes becomes irritated and inflamed and keeps up, by its contractions, pressure on the sciatic nerve. If such pressure is more or less continuous, sciatic neuritis could be caused. This condition being surmised or suspected, local treatments aimed at relieving the spasm of this muscle should be instituted. Among such measures may be included static wave currents, mechanical vibration and sparks from a static machine locally applied to the region of the foramen through which the sciatic nerve leaves the pelvis. Also sometimes beneficial is the application of dry heat to this part, and perhaps best by the reflected heat and light of a strong electric light.

Sometimes counter-irritation along the course of the sciatic nerve by momentary localized applications of the galvanic electric current with the positive pole active, or painting along the course of the nerve with iodin, or electric light bath treatment to the whole course of the nerve, or dry cupping along the course of the nerve and repeated on successive days, will abort a beginning neuritis. In an ordinary case of sciatic neuralgia, if the cause is removed, the neuralgia will cease.

If beginning neuritis or perineuritis is suspected or diagnosed, absolute rest of the limb on a level, hard bed, with electric light applications or dry heat applications, with the administration of alkalies or salicylate, and the general management of the bowels above outlined, may still abort the inflammation.

If, on the other hand, an actual neuritis is present, there is nothing that will shorten an attack so much as a long splint from the axilla to the heel, to give permanent fixation and rest. If a splint is used for this purpose, the bandage which binds it should be removed at least once, and perhaps better twice, a day and the limb gently flexed once or twice so that the joints will not become stiffened. The length of time such a splint should be used is determined by the amount of pain and the rapidity with which the inflammation improves. No fixed rule can be established. Another method of fixing and treating a limb so affected is by long sand bags, which may be put into the oven and rendered very hot, and changed as often as they become cool. Such applications give rest to the limb and constant dry heat. If such heat is not applied, the limb should be swathed in cotton and bandages, as warmth is very essential in all cases of neuritis.

When the pain is intense, and especially if periodical contractions of the muscles occur (which, however, are best prevented by the long splint), injections of morphin must be given. But perhaps nothing will prevent the necessity of such injections more than the ability to give the leg perhaps, but better the whole body, hot-air treatment, which, of course, can only well be done in an institution. The amount of morphin that is needed and the frequency depends on the pain. Such frightful pain can not be endured, and, if not stopped by other means, must be stopped by morphin.

Sometimes the injection of cold water or of a small dose of cocain directly into the nerve sheath in the region of the sciatic notch will cause almost instant cessation of the pain. If cocain is used hypodermatically, the dose would be from 0.008 to 0.015 gram (⅛ to ¼ of a grain), but it should not be often repeated, and it does not seem to be very advisable treatment. If cold water is used and reaches the sheath of the nerve and distends it in this region, of course, it will stop the sensations below, and such treatment sometimes precludes the necessity of the administration of morphin.

The coal-tar analgesics are only of temporary benefit in mild cases, are never of benefit when there is severe pain, and, as the need for an analgesic is so frequent in sciatic neuritis, great debility would be caused by such repeated use of them. Ordinarily, therefore, they should not be used in sciatic neuritis.

There is no really good reason for using atropin hypodermatically in sciatic neuritis. The pain of neuritis comes from the main trunk of the nerve and is distributed more or less to all its branches. Atropin only dulls nerve pain when that pain is due to peripheral irritation. If atropin is used in conjunction with morphin it does nothing but inhibit the narcotic and quieting effects of the morphin, and more morphin is required. Also, if the dose of morphin must be repeated for severe pain, the discomfort of the patient is increased, the restlessness is increased, and the secretions are decreased by the frequent repetition of atropin.

Osmic acid has been used subcutaneously in sciatica to the amount of 1 c.c. (15 minims) of a 1 per cent. solution. Perhaps the best method is to dilute the 1 c.c. (15 minims) of the 1 per cent. solution with sufficient water to allow of a series of injections, from five to ten, into the nerve trunk throughout its course, a few drops being instilled into the nerve sheath at each puncture. This method is, of course, painful, although it may be followed by good results, but the favorable action is possibly largely due to the "acupuncture" treatment and to the distention of the nerve sheath (nerve pressure) from the water. Therefore, if the sheath of the nerve is to be pierced at all, it would seem best to do this at the sciatic notch and instill sufficient water to produce anesthesia below.

It should be understood that a sciatic neuritis is like any other neuritis, and, therefore, will first grow worse, reach its acme, and then gradually and slowly become better, with anesthesias, pain, and more or less paralysis. The patient should be told that a long, tedious process is before him, and that no exact time limit to the duration of the inflammation can be promised.

After the acute condition is past, massage, possibly gentle counter-irritation, faradic stimulation of the muscles, or other electric or hydrotherapeutic measures may be used to bring the leg back to normal function.

It should be again emphasized that probably the most efficient means of shortening the inflammation in the nerve and hastening recovery is by the hot-air treatment.

As soon as the active symptoms have ameliorated, and especially if there is chronic sciatic pain, thermocautery treatment along its course, and repeated once in five days, causes efficient counter-irritation and frequently a cure.

Paralyzed muscles should be treated with such electric and massage treatments as is usual in other paralyses.

If the cause of the cured neuritis was a systemic one, such treatment should be carried out and persisted in as would tend to prevent a recurrence.

Tonics, especially iron, are indicated; fresh, warm air, if possible, and a convalescence long enough to restore complete health to the injured leg, are aids to a permanent cure.

As above stated, too much care can not be taken to positively cure an inflammation such as sciatic neuritis, which tends to recur and often causes permanent disability.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1909," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 1499*)

FORMIC ACID—Acidum Formicum.—Acidum formicicum (Pharm. Helvetica, edit. 4; Pharm., Germ. edit. 4).

Formic acid is a liquid containing 24-25 per cent. of anhydrous formic acid (HCOOH).

Formic acid is a clear colorless liquid possessing a sharp acid odor and taste. It has a specific gravity of 1.058-1.061. With lead acetate, formic acid produces a white crystalline precipitate. On warming with silver nitrate a gray turbidity and with mercuric chloride a white turbidity is produced. A solution (1-10) after the addition of a few drops of nitric acid should yield no precipitate with silver nitrate or barium chloride; and after neutralizing with ammonia water calcium chloride or hydrogen sulphide should produce no precipitate. If 1 Cc. formic acid is mixed with 5 Cc. water and 1.5 Gm. mercuric oxide (yellow) and heated on the water bath there will follow an evolution of gas leaving a mixture which when filtered will yield a filtrate which should not react acid (acetic acid). Five Cc. formic acid should quire 27.6 Cc. to 28.8 Cc. normal alkali for neutralization, denoting a content of 24-25 per cent. by weight of 254-265 Gm. anhydrous formic acid per liter. The titrated solution should yield no burned or sharp odor (Pharm. Helv. and Pharm. Germ.).

Action and Uses.—The actions resemble those of acetic acid, but it is more volatile, more irritant and more antiseptic. Formic acid is much more resistant to oxidation, in the body, than the other organic acids, and is therefore excreted to a large extent as formates, in the urine. These have an irritant action on the kidneys and urinary tract, and are diuretic. Large doses cause methemoglobinemia, but the toxicity is quite low. It has no effect on the general circulation or on the motor system, as has been claimed. It has been lauded in a great variety of disorders, but there is no good evidence that its internal use produces any benefits other than psychical. Its external use as a counterirritant is rational, but it possesses no special advantages.

Dosage.—Internally, 1-20 drops of the 25 per cent. acid, largely diluted; or 0.1-0.25 Gm. (1½-4 grains) of sodium formate. Externally usually in a solution containing 1 per cent. of the absolute acid in alcohol or diluted alcohol.

BERBERINE HYDROCHLORIDE—Berberinae Hydrochloridum.—The hydrochloride, $C_{20}H_{17}NO_4HCl + 2H_2O$, of an alkaloid obtained from *Hydrastis canadensis* and *Berberis vulgaris*.

Berberine hydrochloride occurs as bright yellow acicular crystals or amorphous powder, slightly soluble in alcohol to which it imparts a deep yellow color. It is soluble in 300 parts cold water, but dissolves more easily in hot water.

An aqueous solution of berberine or its salts treated with chlorine or bromine water produces a blood red color. Bromine water in excess precipitates the reddish-brown berberine tetrabromid-hydrobromide—$C_{20}H_{17}NO_4.Br_4.HBr$, which is converted by washing with alcohol or heating to 100° to the yellow-brown berberine dibromide-hydrobromide $C_{20}H_{17}NO_4.Br_2.HBr$.

Ammonium sulphide precipitates from an alcoholic solution of berberine sulphate the polysulphide $(C_{20}H_{17}NO_4)_2H_2S_5$ which crystallizes in brown-black needles.

Berberine solutions even if very dilute when treated with potassium iodide solution yield a yellow precipitate of berberine hydroiodide.

Ation and Uses.—Given by mouth, it acts as a bitter stomachic. Very large doses, although not fatal, cause diarrhea, tremors, general weakness, low blood pressure (from depression of vasomotor center and of cardiac muscle), rapid pulse (depression of vagus endings) and respiration. Recovery is slow. Nephritis may be present. Subcutaneous injection kills by paralysis of respiration, with symptoms of asphyxia and paralysis. It has been used as a bitter tonic, against diarrhea and the vomiting of pregnancy and as a febrifuge.

Dosage.—0.06 Gm. to 0.3 Gm. (1 to 5 grains). As much as 20 grains have been taken without obvious effects besides a loose stool.

EMETINE HYDROCHLORIDE—Emetinae Hydrochloridum.—Methyl-cephaeline. The hydrochloride, $C_{15}H_{22}NO_2.HCl.3H_2O$, of a base found together with cephaeline in Cephaelis Ipecacuanha.

Emetine hydrochloride occurs as a white crystalline powder, soluble in water and alcohol. A freshly prepared concentrated solution of ammonium molybdate in concentrated sulphuric acid is colored brown by emetine; this color changes to violet when a drop of concentrated hydrochloric acid is added. The general alkaloidal reagents precipitate emetine, even from dilute solutions. Alkalies precipitate emetine from aqueous solutions of its salts.

Action and Uses.—Similar to Ipecac, but relatively more nauseant and less emetic, and causing relatively somewhat less renal irritation, but more cardiac depression.

Dosage.—Expectorant, 0.005-0.01 Gm. (1/12-1/6 grain). 0.01-0.02 Gm. (1/6-1/3 grain) causes emesis, but cephaeline is preferred as an emetic.

KERATIN—Keratinum.—A proteid substance which forms the chief part of horns, hoofs, feathers, wool, etc.

To prepare keratin horn shavings are macerated for some days in a mixture of equal parts of ether and alcohol, decanting the liquid and washing the residue with warm water. The washed shavings are then treated with an acid solution of pepsin at 40° C. (104° F.). After further washing with water the residue is dried and powdered.

Keratin occurs as a brownish yellow powder or in transparent white or grayish white scales, tasteless and odorless. It is soluble in concentrated acetic acid, caustic alkalies and ammonia, but insoluble in water, alcohol, ether, dilute acetic acid or acid pepsin solutions. It is decomposed by long boiling under pressure forming a turbid solution with the liberation of hydrogen sulphide. Boiling with dilute sulphuric acid converts it to leucine, tyrosine and other products. On ignition it emits the odor of burning feathers and the remaining carbon is very difficultly burned. On complete combustion the ash should not exceed 1 per cent. 24 hours' digestion with 15 times its volume of ammonia or glacial acetic acid solution at 25°-40° C. (77°-104° F.) should not leave more than 0.3 per cent. insoluble matter.

Uses.—For coating pills to pass the stomach unchanged.

RED GUM—Eucalypti Gummi.—Eucalyptus gum. Eucalyptus Kino.

Red gum is an exudation from the bark of Eucalyptus rostrata, Schlecht, and other species of Eucalyptus.

Red gum occurs in small dark reddish brown opaque and more or less dusty pieces which yield a pale red powder. It is usually collected from artificial incisions. When chewed it is tough, and colors the saliva red. Water dissolves 80-90 per cent. Its chief constituent is tannic acid, to the extent of 47 per cent.

Action and Uses.—Red gum is an active astringent. It is used as an active astringent in sore throat, diarrhea and in catarrhal affections of various mucous membranes. Largely used in the form of lozenges where an astringent is needed in throat affections.

Dosage.—0.1 to 0.3 Gm. (2 to 5 grains).

SODIUM OLEATE[1]—Sodii Oleas.—Sodium oleate, $NaC_{18}H_{33}O_2$, is the sodium salt of oleic acid.

Sodium oleate is obtained by neutralizing sodium hydroxide with oleic acid.

Sodium oleate is a white solid, which crystallizes from absolute but not from aqueous alcohol. When heated it melts and burns leaving a residue of sodium carbonate. It is soluble in about 10 parts of water, in about 20 parts of alcohol, and in about 100 parts of boiling ether. When dissolved in water it is partly decomposed (hydrolysed) into oleic acid and sodium hydroxide; hence its aqueous solution has an alkaline reaction to phenolphthalein; its solution in strong alcohol is neutral to this indicator. It is precipitated from its aqueous solution by saturation with sodium chloride.

Acids separate from its aqueous solution oleic acid, which collects at the surface of the liquid, in an oily layer. If a solution of 5 Gm. of sodium oleate, in 50 Cc. of water be mixed with 3 Cc. of tenth-normal oxalic acid solution, the subsequent addition of a few drops of phenolphthalein test solution should not produce a pink coloration.

An aqueous solution of sodium oleate (1 in 20) should remain unchanged in color upon the addition of ammonium sulphide test solution; and upon acidulating another portion of the solution with hydrochloric acid and filtering, the filtrate should remain unchanged in color when an equal volume of hydrogen sulphide test solution is added and the mixture is allowed to stand well stoppered in a warm place for half an hour (absence of metallic impurities).

Action and Uses.—Sodium oleate is antacid and mildly laxative. It is commonly added to laxative pills. It has been claimed without any definite evidence that it is especially useful in disease of the biliary tract.

Dosage.—0.12 to 1.3 Gm. (2 to 20 grains).

1. This preparation should not be confounded with the preparations sold as "Acid sodium oleate" or "Sodium Oleate, acid" which are mixtures of sodium oleate and free oleic acid, containing from about 5 to 30 per cent. of the latter.

(*To be continued*)

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[For other information see second page following reading matter]

SATURDAY, MAY 29, 1909

THE BIOLOGIC ANALYSIS OF GENERAL SENSATION

In view of the great importance of so-called general sensation, or common sensation, in clinical work, particularly in the diagnosis of nervous and visceral diseases, it is rather surprising that we have so often been content with a very uncritical analysis of this sensation complex.

Nearly twenty-five years ago Gaskell from the physiologic side and His from the embryologic side established the now classical four-root theory of the composition of the spinal nerves, recognizing in each pair somatic and visceral motor and somatic and visceral sensory components. More recently Sherrington[1] has elaborated a very fruitful physiologic analysis, dividing the sense organs (receptors) of the body into: (1) interoceptors, or visceral sense organs of the digestive tract and its derivatives; (2) exteroceptors, or somatic sense organs of the outer body surfaces for impressions coming from the outside world, and (3) proprioceptors, sense organs of the muscles, joints, tendons, etc., adapted to report to the central nervous system the exact state of contraction, tension, etc., which these organs experience during function and thereby assisting in the coordination of all somatic movements.

The chief importance of this analysis lies in the emphasis placed on the type of response characteristic of the several receptors. The interoceptors are related through the sympathetic nervous system with visceral muscles; the exteroceptors through the superficial nerves, including the nerves of higher sense, with the somatic or skeletal muscles; the proprioceptors through the deep sensory nerves with reflex arcs leading back to the body musculature. Otherwise expressed, the interoceptive reflexes are visceral responses to visceral stimuli; the exteroceptive sensori-motor system is the apparatus by which the body is able to make adaptive responses to outside stimuli, and the proprioceptive system is for the internal regulation of the exteroceptive mechanism. Naturally, the peripheral and central conduction paths of these three systems have played a dominant rôle in the evolution of the architecture of the nervous system, and the accurate knowledge of these conduction paths is of great clinical importance.

1. The Integrative Action of the Nervous System. New York, 1906.

The detailed analysis of the sensory components of the cranial nerves of vertebrates and their cerebral centers has been effected by a series of researches of the past fifteen years, chiefly at the hands of American comparative neurologists.[2] It seems probable that from the primordial nerves of general sensation of the lowest animals the first differentiation was into visceral (interoceptive) and somatic (exteroceptive) nerves and that each of these was then further subdivided. Some members of both systems of nerves in lower vertebrates are sensitive to chemical stimuli; but in man the chemical sense (taste) seems to be chiefly, if not wholly, represented in the visceral system, its fibers ending in company with more generalized visceral nerves in the nucleus of the fasciculus solitarius. Smell is probably a still more highly differentiated member of the same system.

The exteroceptive and proprioceptive functions of the somatic sensory system were doubtless cotemporaneously differentiated and each was early subdivided into different kinds of sense qualities. The proprioceptive nerves include several sensory types whose functions (for the most part wholly unconscious) are concerned with equilibration, muscular coordination, etc., such as the nerves of muscle spindles, tendons, articular surfaces and deep sensibility in general. The nerves of the semicircular canals are the most highly specialized members of this system (Sherrington). The exteroceptive nerves include contact receptors, serving the sensations of pressure, touch, temperature, etc., and distance receptors (organs of vision and hearing). The contact sensations of the skin, which are frequently classed uncritically in clinical practice in a single category as "general sensation," have been analyzed in a valuable way by the recent clinical and experimental work of Henry Head and his colleagues.

THE PATHOGENESIS OF URINARY CALCULI

Since the demonstration of the infectious basis of gallstone formation we have had many contributions to our knowledge of their pathogenesis, chemistry and structure, which have cleared up this subject to a gratifying degree. Urinary calculi have, during the same period, received less attention from the pathologists and chemists. Just as Naunyn worked out the principles of gallstone formation to a satisfactory conclusion which has stood the test of time, so Ebstein, in his classical monograph on urinary concretions, developed many of the fundamental conceptions of this topic. He showed that the urinary calculi are not simple conglomerations of crystals, but possess an organic framework of characteristic structure, the product of pathologic processes in the urinary tract, in which the crystalline salts are imbedded and held together. Just what conditions are

2. For summaries of this work see Johnston, The Nervous System of Vertebrates, Philadelphia, 1906.

necessary for the production of this complex deposit in the urine has not yet been fully determined, but a recent paper by Schade[1] seems to bring forward a reasonable theory of calculus formation.

He begins by pointing out a fundamental error in earlier considerations of this subject, namely, that of looking on the urinary constituents as existing in simple watery solution. In the light of physicochemical conceptions, urine is more complex than this. It contains always more or less of colloids, including under normal conditions especially the pigments, which greatly modify the solution of the crystalloids. The colloidal substances exist in the condition of colloidal suspension, and consequently present an enormous amount of surface area which has more or less adsorptive power for the crystalloids which are in true solution. When a considerable amount of adsorption takes place in this way, there results at the surface of each colloidal particle a zone in which the crystalloids are more concentrated than elsewhere, and which will always serve as the starting point of crystallization whenever the solution becomes oversaturated. It is because of this adsorptive power that colloids increase the solvent power of urine for uric acid, for the more of the slightly soluble uric acid that is withdrawn from the watery solution by adsorption into colloidal particles the more uric acid can the urine dissolve. When the crystalloid goes out of solution it will, therefore, form crystals or precipitates which are most intimately associated with the colloids, as we see when uric acid crystallizes out of urine taking with it the colloidal pigments by which it is adsorbed. Hence the complex colloidal stroma which is found in every concretion and even in every crystalline deposit which is formed in urine.

It is a well-known fact clinically that a urinary calculus is not nearly so soluble as a simple crystalline mass of the same chemical nature; otherwise we would be able much more easily to dissolve urinary calculi by merely changing the reaction of the urine according to the nature of the calculus. But it is only too certain that uratic calculi will persist in alkaline urine, and oxalate calculi will remain in acid urine without appreciable change. This insolubility Schade explains as due also to the colloidal matrix. If the calculi consisted merely of crystalline deposits, they would dissolve readily, for crystallization is a reversible process. Likewise if the colloid were one that formed reversible precipitates or gels, as mucin which precipitates with acids and redissolves in alkalies, urinary calculi would also be correspondingly soluble; but if the colloidal matrix is one that forms precipitates or gels that are not reversible, then resolution of the calculus is difficult.

Such a colloid is fibrin, and Schade found that he could produce experimentally with calcium salts and fibrinogen, masses of salts which became progressively harder and stonelike, and which had the same structural arrangement of matrix and crystals as is characteristic of calculi. Therefore, he urges the importance of inflammatory exudation in the formation of urinary calculi. Normal urine contains no irreversible colloids, and hence does not form concretions; but any inflammatory exudation taking place in any part of the urinary tract introduces fibrinogen, and conditions become suitable for the formation of irreversible deposits of any crystalloid with which the urine may at the time be saturated or oversaturated. Possibly other colloids may have the same property, but probably fibrinogen is the most important. Much of practical significance for the prevention and treatment of urinary calculi would seem to lie in these suggestions of Schade's, which point out some of the reasons for existing disagreement between theory and practice.

The solubility of concretions depends on entirely different laws from that of the simple crystalline deposits which never form concretions, yet hitherto we have attempted to find solvents for calculi on the basis of our experience with the solubility of simple crystalline formation, and have met with failure. Possibly a better understanding of the nature of calculus formation will help us toward the goal of solvent treatment.

1. Münch. med. Wchnschr., 1909, lvi, 3.

A BRITISH COUNCIL ON PHARMACY AND CHEMISTRY

While it is possible that the medical profession of Great Britain has not been exploited by proprietary medicine promoters to quite the extent that has been the case in this country, yet the proprietary evil there is a serious and a growing one. That British medical men are beginning to wake up to this fact is evident from one of the "notices of motion" put forward by the South-Eastern of Ireland Branch of the British Medical Association, to be acted on at the annual meeting of the association to be held in July.

This notice proposes "that the council be requested to appoint a Materia Medica Committee, whose duty it will be, with such professional aid as they can summon to their assistance, to investigate and pronounce on the uses and properties of all drugs which shall be used by the profession; and, in view of the grave injury inflicted on the public and on the profession alike by the present wholesale introduction of drugs by mere commercial firms, whereby the ground is being cut from under our feet, and the gullible public are induced to accept nostrums on the sole strength of mere assertions, that the hospitality of our museum and the pages of our *Journal* shall both be shut out from giving any further aid to the wholesale advertisements of drugs and preparations, the virtues of which have too often no existence save in the mendacity of their introducers."

It will be seen that the proposed Materia Medica Committee is practically identical with the Council on Pharmacy and Chemistry of the American Medical Association. The need of such a committee is evident;

should it be appointed, it will do much to limit the sale of nostrums as "ethical proprietaries." Since the work of the Council and the campaign carried on by THE JOURNAL have given American nostrum makers a substantial set-back, it has been the policy of these gentlemen to transfer their activity to the other side of the Atlantic. When a similar campaign is waged in the British Isles, the discomfited manufacturers will have no place to go. The Anglo-Saxon countries have been the last to regulate the traffic in nostrums, but the field of operation for this business is slowly but surely narrowing.

In passing, it might be said that when the suggested body begins its work, the *British Medical Journal* will, perforce, lose some of its regular advertisers. Nevertheless, this loss of revenue to the association's organ will be more than compensated by the gain to the profession generally.

A STUDY IN THE INCONSISTENCY OF THE ANTI-VIVISECTIONISTS

The inconsistency in operation of the basic emotional activities which are the springs of human action is well brought out in an editorial in *La Follette's Weekly Magazine* for April 10, entitled "False Mercy and Real Cruelty." "If a horse had been tied on the street in Washington on inauguration day," says *La Follette's*, "its owner would have been arrested for cruelty." Yet, the article goes on to point out, on the same day 800 men of a Massachusetts coast artillery organization were kept shivering and stiff for two hours or more in the storm, waiting for the parade to move, then marched for five hours in a blizzard, and quartered without beds on the floor in a cold and miserable armory. It is scarcely to be wondered at that 100 of them became ill, mostly with pneumonia, and that a score or so died. Some years ago on a similar occasion 75 men died from a similar cause. "If 75 sparrows had been tortured for five hours for somebody's pleasure," comments *La Follette's*, "the conscience of the nation would have been shocked." Verily, a sensitive conscience is an elastic term when applied to communities, and recalls to mind the distinction finely drawn by Jane Austen in "Sense and Sensibility."

It is but natural that the article should pass on to the consideration of an analogous inconsistency—that of the supersensitive souls who would fain abolish all experimentation on animals. Says *La Follette's*, "The animals, of course, are not experimented on for pleasure, or to make a parade, but for the sake of the knowledge and cure of diseases. The animals are put under ether or chloroform, and the operations are usually painless. The average dog used in educating physicians and surgeons dies with infinitely less suffering than that endured by any one of the Massachusetts soldiers as he shivered the night through in a bedless armory—to say nothing of the marching and pneumonia—and he dies for a good and, to most people, a sufficient reason. Dogs, cats, rabbits, and guinea-pigs should not be killed, even under anesthesia, wantonly or for no reason. But if the question is not whether the animal experiments shall stop, but whether the animals experimented on are to be dumb animals or men, women and children, then we may ask whether human beings are not worth more than dogs or guinea-pigs.

"The antitoxin that cures diphtheria, the Pasteur hydrophobia treatment, the Koch tuberculin test for consumption, the knowledge that protects us from disease generally, the prevention of disease in live stock, the use of ether, chloroform and cocain, which make dentistry and surgery painless, all have been discovered by and depend on animal experiments. Had it not been for them we should not yet have learned that the blood circulates, or the use of the heart, or the functions of the nerves; we should still be calling in magicians to cast out the devils when we are ill, and hanging the witches believed to torment us with pains and aches. Protect the animals—certainly. But do not force science to practice on us rather than on them. Protect the horses—certainly. But remember that a man is worth more than many horses. Don't be so falsely merciful that you reach real cruelty."

It is an admirable thing when a man of public affairs, possessed of an unusual capacity for "straight talk," is imbued also with a breadth of view in the search for knowledge concerning that whereof he talks, that shall enable him to use it wisely and well.

RESIDUAL TYPHOID FEVER

Not long ago it was generally considered that practically all cases of typhoid were due to polluted drinking water, and some enthusiasts even ventured the statement that the amount of typhoid in a city affords a very fair idea of the purity of its public water supply. The acquisition of new data, however, is bringing about in this field, as in so many others, what might almost be styled a reversal of opinion. Not that there is any doubt on the part of any competent authority as to the large part sewage-contaminated water has played and is still playing in the transmission of typhoid fever, but there is no longer a tendency to minimize or to ignore other causes. One really astonishing circumstance is that after an infected water supply has been purified or replaced by a purer source the residuum of typhoid fever is still very great. A recent Harvey lecturer has drawn attention to the fact that in most cities in the United States, even after a pure water supply has been secured, the typhoid fever death rate has remained at least five or six times as high as in European cities of similar rank.[1] Point has been given to this situation by the well-known experience of the city of Washington, D. C., which has had the keen disappointment of seeing its typhoid rate remain prac-

1. Jordan: THE JOURNAL A. M. A., Feb. 15, 1908, 493.

tically stationary after the installation of a well-built and efficiently operated filter plant.

Longley[2] has now thrown some new light on the Washington problem by showing that there is a reasonable doubt whether even in years past the Potomac water supply was really responsible for the general prevalence of typhoid fever in the District of Columbia. Sedimentation of the river water, which has been believed by many sanitarians to explain the fluctuations in typhoid fever in Washington, is considered by Longley, after careful analysis of the data, to have had little or no share in bringing about the conditions observed. There is, in his opinion, no marked relation between the period of sedimentation and the typhoid death rate in Washington. This conviction is strengthened by the remarkable parallelism which Levy and Freeman have shown to exist between the typhoid fever curves in Washington and in Richmond, Va. In Richmond the water supply has remained unchanged during a period of nearly thirty years, and yet the years of rise and fall of the typhoid death rate in the two cities coincide in a manner that suggests the operation of some common cause.

What explanation can be given for the non-water-borne typhoid fever? There is no doubt that a certain proportion of it can be accounted for by milk infection, by fly infection, by contact through the agency of carriers and in other ways with which recent investigation has made us familiar, but when all is said there is still an unexplained residuum. The proportion of typhoid not traceable to acknowledged sources of infection is apparently greater in some localities than in others. It is a tempting speculation that meteorologic conditions in some way influence individual susceptibility, but it can hardly be said that there is any strong evidence for this view. The coincidence in the typhoid curve in cities with dissimilar sanitary conditions might seem to support this hypothesis, but there are obviously other possibilities. The questions raised are certainly important and hardly to be dismissed as of theoretical interest only.

SMOKE CONSUMPTION

The unwholesome effect, psychical and physical, exercised by a sunless smoke-laden atmosphere has long been recognized. The crux of the problem has been to render smokeless combustion not merely experimentally possible, but commercially practicable. Smoke in cities is undoubtedly an immense extravagance for the community, having a deleterious effect on many marketable commodities, as well as on the health and strength of the inhabitants. It is a direct loss to the consumer of coal, too, for smoke means waste fuel. Yet the attempts to make smokeless combustion an actual, as well as a theoretical, economy to the one who pays the coal bills have been only partially successful in the past. It is now asserted that the United States Geological Survey Experiment Station at Pittsburg, Pa., has succeeded in solving the problem and in that smoky city is now operating its plant absolutely without smoke, even though burning a coal considered refuse by the trade and costing, delivered at the station, 88 cents a ton. Moreover, over two hundred industrial plants in the larger cities of the country are now being operated without smoke, and with a gain in economy. The solution of the whole problem appears to depend, not on any particular form of furnace, but on the simple principle that "stokers or furnaces must be so set that the combustion shall be complete before the gases strike the heating surface of the boiler"; otherwise sudden cooling, with checking of combustion, will ensue. Absolutely and invariably satisfactory results are said to depend on the installation of mechanical stokers, as the personal element in firing is too variable to be relied on. The report of the experts who had immediate charge of the government investigation will shortly be issued by the Geological Survey as a bulletin, which will doubtless prove valuable reading for sanitary medical officers and engineers. If it can be demonstrated that, as the Geological Survey maintains, "in 50 per cent. of the industrial plants of the United States more than 10 per cent. of the coal bill can be saved each year by the smokeless burning of coal, and 5 per cent. in the other plants," our cities will soon enjoy a purer air and a brighter sky than they have known for many a long day.

2. Eng. News, Apr. 22, 1909, p. 493.

Medical News

ILLINOIS

Home for Nurses Donated.—James A. Patten has donated $40,000 for the erection of a home for nurses of the Evanston Hospital. The structure will be connected with the main hospital building and will provide accommodation for 40 employés, including nurses and internes.

Hospital Appropriation.—The omnibus appropriation bill which passed the house early this week gives the State Board of Health $46,000 for the free distribution of antidiphtheric serum throughout the state. The last general assembly appropriated $30,000 for this purpose.——The State Board of Health has already been allowed $4,000 for the free treatment of poor persons said to have been bitten by rabid animals or otherwise in danger from infection from hydrophobia.——The appropriations for the State Board of Health have been materially increased.

Personal.—Dr. George S. Duntley, Bushnell, has succeeded Dr. William E. Haines, resigned, as local physician for the T. P. & W. Railway.——Dr. Alvard G. Durkee, Pontiac, is at St. James Hospital, recovering from an operation for appendicitis.——Dr. Homer M. Little, East St. Louis, has returned after eighteen months abroad. While in Vienna, Dr. Little was elected secretary-treasurer of the American Medical Association of Vienna.——Dr. Albert N. Mueller has been appointed health commissioner of Rock Island, and Drs. William H. Ludewig, Michael J. O'Hern, Frank H. First and Joseph R. Hollowbush have been appointed members of the board of health.

Legislative Progress.—Senate Bill No. 214, to create a state board of osteopathy, was defeated in the house May 19, by a vote of 72 to 45. The "osteopathic lobby" claimed 100 votes for this bill, which at one time seemed assured of passage. ——On May 21 the house set its disapproval on optometry by killing House Bill No. 576, which received only 28 of the 77 votes required for passage. There is still another osteopathic

bill, Senate Bill No. 351, which passed the senate two weeks ago. This bill is even more objectionable than Senate Bill 214, and is at its second reading in the house. The State Board of Health and the legislative committee of the state medical society are of the opinion that this bill will not become a law.

State Medical Society Meeting.—The fifty-ninth annual meeting of the Illinois State Medical Society was held in Quincy, May 18-20. The following officers were elected: President, Dr. J. Leaming Wiggins, East St. Louis; vice-presidents, Drs. Clifford U. Collins, Peoria, and James E. Stubbs, Chicago; secretary, Dr. Edmund W. Weis, Ottawa (re-elected); treasurer, Dr. Everett J. Brown, Decatur (re-elected); councilors, Drs. Malcolm L. Harris, Chicago, Carl E. Black, Jacksonville, and Henry C. Mitchell, Carbondale; delegates to the American Medical Association, Drs. Frank Billings and Charles S. Bacon, Chicago, and James W. Pettit, Ottawa; alternates, Drs. Samuel C. Stremmel, Macomb, W. K. Newcomb, Champaign, Joseph R. Hollowbush, Rock Island, Edwin W. Ryerson, Chicago, and Alfred C. Haven, Lake Forest; committee on public policy, Drs. Robert B. Preble and William L. Baum, Chicago, and Carl E. Black, Jacksonville; committee on medical legislation, Drs. Charles J. Whalen, Chicago, Milton S. Marcy, Peoria, and Lewis C. Taylor, Springfield; and chairman of the medicolegal committee, Dr. Harold N. Moyer, Chicago. Danville was selected as the place of meeting for 1910.

IOWA

Personal.—Dr. James P. Lane has been elected health officer of Cascade.——Drs. John W. Reynolds and Cleve Coakley, Creston, and Dr. Oliver S. Barber, Kent, will open a hospital in Creston in a few weeks.——Dr. Henry J. Prentiss, professor of anatomy in the State University College of Medicine, Iowa City, has declined an offer to return to his former work at Bellevue Hospital Medical College, New York City.

Medical Women Meet.—At the twelfth annual meeting of the State Society of Iowa Medical Women, held in Dubuque, May 18, the following officers were elected: Dr. Lenna L. Means, Des Moines, president; Drs. Kate S. Harpel, Boone, and Pauline Myers-Townsend, Marshalltown, vice-presidents; Dr. Lena A. Beach, Cherokee, secretary, and Dr. Clara B. Whitmore, Cedar Rapids, treasurer. At the annual banquet Dr. Julia M. Donahue, Burlington, presided as toastmistress.

State Society Meeting.—At the fifty-eighth annual meeting of the Iowa State Medical Society, held in Dubuque, May 19-21, the following officers were elected: President, Dr. George E. Crawford, Cedar Rapids; vice-presidents, Drs. Nelson M. Voldeng, Cherokee, and Henry H. Clark, McGregor; secretary, Dr. Vernon L. Treynor, Council Bluffs; treasurer, Dr. William B. Small, Waterloo, and delegate to the American Medical Association, Dr. Arthur L. Wright, Carroll. Des Moines was selected as the next place of meeting.

KANSAS

New Hospital.—The Sisters of St. Agnes will establish and equip a hospital at Hays, to be owned by the sisters, but to be open to the sick of all creeds and beliefs.

Personal.—Dr. Joseph F. Wallace, Leavenworth, has been selected as superintendent of the sanatorium for tuberculosis which is being established by the Modern Woodmen of America, near Colorado Springs.——Dr. Sherman LaB. Axford, Burlington, has been appointed physician to the state penitentiary, Lansing.

Councilors Elected.—At the annual meeting of the Kansas Medical Society, the following councilors were elected: First District, Dr. Charles W. Reynolds, Holton; Second District, Dr. W. Preston Sterret, Kansas City; Third District, Dr. Hugh B. Caffey, Pittsburg; Fourth District, Dr. Ora P. Davis, Topeka; Fifth District, Dr. William E. Currie, Sterling; Sixth District, Dr. Archibald D. Jones, Wichita; Seventh District, Dr. F. M. Daily, Beloit; Eighth District, Dr. Oliver D. Walker, Salina; Ninth District, Dr. Chauncey S. Kenney, Norcatur; Tenth District, Dr. Ernest J. Beckner, Selden; Eleventh District, Dr. John A. Dillon, Larned; and Twelfth District, Dr. William F. Fee, Mead.

Society Meetings.—At the semi-annual meeting of the Southeast Kansas Medical Society, held in Parsons April 13, Dr. Edward B. Payne, Fort Scott, was elected president; Dr. Giles A. Blasdel, Garnett, secretary, and Dr. Millard F. Jarrett, Fort Scott, treasurer.——Physicians of Lynn county have effected a medical organization and elected the following officers: President, Dr. David E. Green, Pleasanton, and secretary-treasurer, Dr. Howard L. Clarke, LaCygne.——A committee from the Sedgwick County Medical Society appeared before the mayor of Wichita, April 22, and requested that the secretary of the City Board of Health be given a position in the city hall, and that he take over the duties now devolving on the city physician and police surgeon and also the duties of city pathologist and bacteriologist, registrar of vital statistics, supervisor of sanitation of city schools, and local statistician for the State Board of Health.

KENTUCKY

Tuberculosis.—As the result of "Ten Cent Day," an idea conceived by Mrs. L. H. Wyman, Louisville, to raise funds for the work against tuberculosis, nearly $2,000 was collected May 18, and it is anticipated that the total receipts will exceed $3,000.

Damage Suits.—The Court of Appeals is reported to have ruled that Dr. Fouche W. Samuels, Louisville, pay Mary Willis damages of $3,500. She claimed that he had left a sponge in her abdomen after laparotomy.——Judge Gordon May 19 gave instructions to the jury to find for the defendant in the case of Annie Edelen against Dr. Edgar W. Stokes, Louisville, who was sued for $5,000, the plaintiff alleging that the defendant had failed properly to treat a fracture of the wrist.

Personal.—Dr. Lewis S. McMurtry, Louisville, has had conferred on him the degree of LL.D. by his alma mater, the Tulane University of Louisiana.——Drs. Clyde A. Eckler, Dry Ridge, Joseph L. Price, Sherman, and Americus V. Menefee, Williamstown, have been appointed members of the Grant County Board of Health, and Dr. Menefee has been made health officer of the county.——Dr. John Wood, assistant physician at the Central Kentucky Hospital for the Insane, Lakeland, resigned May 18, on account of ill health.

LOUISIANA

Site Purchased for Sanitarium.—The Hicks homestead, with about twelve acres of land at Shreveport, has been sold to the Sisters of the Incarnate Word for $30,800. On this site will be erected the new Schumpert Memorial Sanitarium, to cost $10,000, in memory of the late Dr. T. Edgar Schumpert.

Hospital Report.—At the annual meeting of the board of trustees of the Eye, Ear, Nose and Throat Hospital, New Orleans, April 20, the present administration was re-elected by unanimous vote. The total number of patients treated during the year was 7,838, or 1,147 more than for the preceding year, distributed as follows: Eye department, 3,552; ear, nose and throat department, 4,191; dermatological department, 95. Included in these were 686 emergency cases. The total number of consultations for the year was 53,687, an increase of 9,731 over last year. The maximum daily number of patients was 297, and the maximum number of new cases 74. During the year 1,657 operations were performed.

Society Meetings.—At the annual meeting of St. Landry Parish Medical Association, held in Opelousas, April 15, Dr. Robert G. Hawkins, Palmetto, was elected president; Dr. Paul Foster, Lewisburg, vice-president; Dr. L. Lazaro, Washington, secretary; Dr. William R. Boudreau, Washington, treasurer, and delegates to the state society, Drs. L. Lazaro, Washington, and J. C. Vidrine, Villeplatte.——Claiborne Parish Medical Society, at its annual meeting at Homer April 13, re-elected the following officers: President, Dr. Joseph W. Day, Homer; vice-presidents, Drs. Phillip Gibson, Homer, James F. Simpson, Athens, and Lee T. Waller, Haynesville, and secretary-treasurer, Dr. William L. Stone, Homer.——At the April meeting of Bienville Parish Medical Society Dr. Shelton I. Colvin, Gibsland, was elected delegate to the state medical society.

MARYLAND

County Association Meeting.—The annual meeting of Baltimore County Medical Association was held in Towson, May 20. Dr. Bennet F. Bussey, Cockeysville, was elected president; Dr. H. J. Jarrett, Towson, vice-president; Dr. Richard C. Massenburg, Towson, corresponding secretary; Dr. Josiah S. Bowen, Mount Washington, recording secretary; and Dr. William L. Smith, Sherwood, treasurer; and Drs. H. Lewis Naylor, Pikesville, and L. Gibbons Smart, Lutherville, were elected delegates to the Medical and Chirurgical Faculty of Maryland. The retiring president, Dr. Richard F. Gundry, Catonsville, in his address, made an urgent plea for the care of the indigent insane of the state.

Baltimore

Commencements.—The address at the commencement exercises of the University of Maryland, May 31, will be delivered by Dr. John A. Wyeth, New York City, who will also

receive from the university the honorary degree of LL.D.——At the annual commencement exercises of Baltimore Medical College, May 25, a class of 57 was graduated. Hon. J. Charles Linthicum presented the prizes, and ex-Governor Warfield delivered the address to the graduates.

Personal.—Dr. J. Canby Robinson has returned after a year in Germany.——Dr. Thomas S. Cullen sailed for Europe May 21.——Dr. Thomas H. Buckler will spend the summer abroad.——Dr. Samuel C. Chew has recovered from his recent illness.——Dr. Daniel W. Cathell has been elected president of the Baltimore Eastern Dispensary.——Dr. John C. Hemmeter has been named as one of the committee of patrons for the dedication of the monument to Michael Servetus, in Vienne, near Lyons, France, August 14.

Money for Charities.—As the result of a charity congress held by the Baltimore Judaic Union, $1,400 was realized, which will be devoted to the establishment of a free dispensary in East Baltimore.——By the will of Miss Frances Donaldson, the Church Home and Infirmary received a bequest of $5,000 for the endowment of a bed.——Harry E. Meyer has given $10,000 to the Jewish Home for Consumptives, to be used for the erection of an additional cottage on the grounds of the institution near Baltimore.

MASSACHUSETTS

Gift to Hospital.—By the will of the late Miss Elizabeth Fay Brigham, Brookline, $1,500,000 has been bequeathed to establish the Brigham Hospital for Incurables.

Wednesday Half Holiday.—The physicians of Lawrence, Methuen, Andover, and North Andover, have decided almost unanimously to close their offices on Wednesdays at 1 p. m., beginning July 1.

Bequests.—By the will of Mrs. Effa E. Brown, East Kingston, filed May 12, a bequest of about $30,000 is made to the Lawrence General Hospital.——By the will of the late Dr. Frank W. Draper, Brookline, the income of the estate is eventually to be paid to Harvard University.

Personal.—Dr. Elmer E. Southard, Danvers, has been appointed pathologist to the Massachusetts Board of Insanity.——Dr. Robert W. Lovett has been appointed assistant professor of orthopedic surgery, Dr. Charles A. Porter, assistant professor of surgery, and Dr. Edward H. Nichols has been reappointed assistant professor of surgical pathology in Harvard Medical School.

Carnation Day.—As the result of "Carnation Day" in Lynn, on which 27,000 carnations were sold for the benefit of the Day Camp for Consumptives, Swampscott, $2,750.08 was raised. The camp will be opened as soon as the buildings can be put in condition for the reception of patients. On account of the success of the attempt, the committee has decided to establish the second Saturday in May in each year as "Carnation Day" for the benefit of the camp.

State Medical Society Meeting.—The one hundred and twenty-eighth annual meeting of the Massachusetts Medical Society will be held June 15 and 16 in Boston. The sectional meetings will be held in the Medical Library on the Fenway on June 15. In the evening the Shattuck Lecture on "The Widening Sphere of Medicine" will be delivered by Dr. Edward W. Taylor, Boston, and at the close of the lecture, a reception will be given to the president. On the second day, the annual discourse will be given by Dr. James G. Mumford, Boston, and at the close the annual dinner will be served.

Alumni Day at Harvard.—Alumni Day was celebrated at Harvard Medical School, May 20. In the evening the triennial dinner occurred, at which ex-President Eliot urged the necessity of a campaign of education so that the people may see vivisection and "new superstitions" in the right light. Lieutenant Governor Frothingham extended a welcome on behalf of the Commonwealth to the visitors from various parts of the country, and lauded the medical men holding state positions in Massachusetts. President Lowell, of Harvard, in his talk, stated that what the medical school of Harvard needed and should have, was a larger student body. Dr. William Osler, Oxford, England, advised that Harvard be remodeled on the lines of the medieval universities of Bologna and Padua. He thought the average age for Harvard medical graduates, 24, was too advanced, and should not be more than 23. He believed Harvard Medical School to be only half finished, as it had no hospital attachment. There should be a hospital as great as the school itself, and it should be a part of the university. Dr. Henry A. Christian, dean of the school, asked the cooperation of every alumnus in improving the institution. Major General Leonard Wood, U. S. Army, an alumnus of the school, delivered an address on what the medical profession is doing in Porto Rico, Cuba, and the Philippines, and credited the profession with doing more than any other class excepting school teachers, to reconcile the people of the islands to American institutions. He urged young graduates to serve a while in the Army in the insular possessions to perfect their knowledge of tropical diseases, and finally endorsed the suggestion of the dean for the establishment of a professorship of tropical diseases in the university.

Elections.—At the annual meeting of Worcester North District Medical Society, held in Fitchburg, April 27, Dr. Eustace L. Fiske, Fitchburg, was elected president; Dr. William N. Cowles, Ayer, vice-president; Dr. Walter F. Sawyer, Fitchburg, secretary; Dr. Frederick H. Thompson, Jr., Fitchburg, treasurer; Dr. Luther G. Chandler, Townsend, commissioner of trials, and Dr. Atherton P. Mason, Fitchburg, librarian.——Hampden District Medical Association, at its annual meeting, held April 20, in Springfield, elected the following officers: President, Dr. Charles W. Jackson, Monson; vice-president, Dr. Harvey W. Van Allen, Springfield; secretary-treasurer, Dr. Richard S. Benner, Springfield; supervising censor, Dr. Vincent J. Irwin, Springfield; censors, Drs. George L. Taylor, Holyoke, Frederick S. Ward, Springfield, William C. Leary, Springfield, and J. H. Schneider, and commissioner of trials, Dr. Philip Kilroy, Springfield.——Plymouth District Medical Society, at its annual meeting, April 21, in Brockton, elected Dr. Frederick J. Ripley, president; Dr. Charles S. Millet, vice-president, and Dr. Alfred C. Smith, secretary, all of Brockton.——At the annual meeting of the Middlesex North District Medical Society, held in Lowell, the following officers were elected: President, Dr. Clarence A. Viles; vice-president, Dr. Omer P. Porter; secretary, Dr. Archibald R. Gardner; treasurer, Dr. Thomas B. Smith; librarian, Dr. Patrick J. Meehan, all of Lowell, and commissioner of trials, Dr. Frederick E. Varney, North Chelmsford.——At the annual meeting and dinner of the Dorchester Medical Society, April 28, Dr. Robert M. Merrick was elected president; Dr. M. Vassar Pierce, vice-president; Dr. Edward J. Brearton, secretary-treasurer.——The Berkshire District Medical Society, at its annual meeting, held in Pittsfield, April 29, elected Dr. Harry B. Holmes, Adams, president; Dr. Clifford S. Chapin, Great Barrington, vice-president, and Dr. Isaac S. F. Dodd, Pittsfield, secretary-treasurer.——Franklin District Medical Society held its annual meeting, May 12, in Greenfield, and elected Dr. Charles L. Upton, Shelburne Falls, president; Dr. Leroy A. Newton, Greenfield, vice-president; Harry N. Howe, Greenfield, secretary-treasurer, and Dr. Francis E. Johnson, Erving, commissioner of trials.

MICHIGAN

Acquitted on Charge of Perjury.—In the case of Dr. George A. Fritch, Detroit, charged with the commission of perjury in a death certificate, the charges were dismissed April 2, and the judge is said to have criticized the prosecutor severely from the bench.

March Mortality.—During March 3,524 deaths were reported, equivalent to an annual death rate of 15.6 per 1,000 of population. Among these were 696 infants under 1 year; 212 children from 1 to 4 years of age, and 1,180 individuals of 65 years of age or over. Among the important death causes were pneumonia, 355; tuberculosis, 256; cancer, 163; violence, 154; influenza, 71; meningitis, 47; diarrheal diseases of infants, 43; typhoid fever, 41; measles, 35; whooping cough, 32; diphtheria, 31, and scarlet fever, 14.

MISSISSIPPI

Hospital Notes.—The need of a central general hospital in the state has resulted in the organization of the Jackson Hospital and Sanatorium Company with a paid-up capital stock of $50,000, by Drs. Julius Crisler, Christopher H. Herbert and others. The charter has been approved and the extension and addition to the present sanatorium plant will be undertaken promptly.

MISSOURI

Antituberculosis Campaign.—At a meeting of the St. Joseph-Buchanan County Medical Society, held April 22, plans were outlined for the organization of a society for the prevention of tuberculosis, and for the establishment of an outdoor ward at St. Joseph's Hospital for both city and county patients.

Sanatorium Officers.—The newly-elected board of managers of the Missouri State Sanatorium for Incipient Tuberculosis, Mount Vernon, at its meeting May 8, elected the following officers: President, Dr. William Porter, St. Louis; medical director, Dr. Edward W. Schauffler, Kansas City; vice-president, F. H. Miner, Aurora; secretary, W. L. Gupton, Montgomery City; auditor, W. T. Craig, Galena; superintendent,

Dr. Orville H. Brown (reelected), and assistant superintendent, Dr. George W. Orrick, Rolla.

State Society Meeting.—The opening address at the fifty-second annual meeting of the Missouri State Medical Association, held in Jefferson City, May 18-20, was delivered by Dr. J. N. McCormack, Bowling Green, Ky. The House of Delegates met and the general and medical sessions were held in the House of Representatives, and the surgical section met in the Senate Chamber. The following officers were elected: President, Dr. Tinsley Brown, Hamilton; vice-presidents, Drs. John M. Bell, St. Joseph; James A. Harris, Mount Vernon; Herbert C. Schobe, Paris; Bernard W. Hays, Jackson, and Jefferson L. Thorpe, Jefferson City; secretary, Dr. Andrew W. McAlester, Kansas City (re-elected); treasurer, Dr. J. Franklin Welch, Salisbury; delegates to the American Medical Association, Drs. Walter B. Dorsett and Edward J. Goodwin, St. Louis; orator in medicine, Dr. Nimrod P. Wood, Independence, and orator in surgery, Dr. Francis Reder, St. Louis. Hannibal was selected as the place of the next annual meeting.

MONTANA

State Tuberculosis League.—A meeting was held in Missoula, May 12, at which the Montana Antituberculosis League was organized with the following officers: President, Dr. William F. Cogswell, Livingston; vice-president, Mrs. T. J. Walsh, Helena; secretary, Dr. Thomas D. Tuttle, Helena; and treasurer, Dr. Mary B. Atwater, Helena.

State Board Election.—At the meeting of the State Board of Medical Examiners, held April 28, in Helena, the following officers were elected: President, Dr. Frederick M. Poindexter, Dillon; secretary, Dr. William C. Riddell, Helena, and treasurer, Dr. Sidney A. Cooney, Helena.——Dr. George B. Owen, Butte, has been appointed a member of the board.

State Medical Society Meeting.—At the thirty-first annual meeting of the Montana State Medical Association, held in Missoula, May 12 and 13, the following officers were elected: President, Dr. Thomas D. Tuttle, Helena; vice-presidents, Drs. John J. Buckley, Missoula; Frederick Cuttle, Hunter's Hot Springs, and Fritz E. Buchen, Hamilton; secretary, Dr. Herbert D. Kistler, Butte, and treasurer, Dr. Creswell T. Pigot, Butte. Hunter's Hot Springs was decided on as the next place of meeting.

Regulations for Car Sanitation.—Regulations have been issued by Dr. Thomas D. Tuttle, secretary of the State Board of Health, governing sanitation and ventilation of passenger cars in Montana. These regulations are the result of a conference between the State Board of Health, railway officials and state railroad commission. The rules provide that no person with a contagious or infectious disease shall enter a public conveyance except a hack, and then only after the person in charge of the hack has been notified. Train conductors are charged to notify health officers when they discover cases of contagious or infectious diseases on their trains, and the local health officer may, at his discretion, remove such persons from trains and hold them in quarantine until disinfected. Spitting and throwing refuse on floors of cars is prohibited. Waiting rooms, smoking rooms and cars must be provided with cuspidors, and water for car tanks is not to be used without the approval of the board of health when a waterborne disease has developed in epidemic form in the municipality.

NEBRASKA

Personal.—The governor has appointed the following four secretaries for the State Board of Health in the so-called "defective act" of the last legislature: Dr. Archibald L. Muirhead, Omaha, two years; Dr. Clifford P. Fall, Beatrice, four years; Dr. Herschell B. Cummins, Seward, three years, and Dr. E. Arthur Carr, Lincoln, one year.——Dr. Malcolm Stewart has been appointed city physician of Tecumseh.——Dr. and Mrs. Lester M. Stearns, Kearney, sailed for Germany May 13.

State Tuberculosis Association.—At the annual meeting of the Nebraska Association for the Study and Prevention of Tuberculosis, held in Omaha, May 7, the following officers were elected: President, Dr. Harold Gifford, Omaha; vice-president, Dr. Francis A. Long, Madison; and executive committee, Mrs. K. R. Edholm, Omaha; Dr. Solon R. Towne, Omaha; Prof. H. B. Ward, Lincoln; Father Reusing, West Point; Mrs. Draper Smith, Omaha; Dr. Charles O. Giese, Holdrege, and Dr. Adrian F. Burkhard, Omaha.

Medical College Closes.—Dr. James F. Stevens, dean of the Nebraska College of Medicine, Lincoln, an affiliated school of the Nebraska Wesleyan University, in a letter to Dr. Ernest J. C. Sward, secretary of the State Board of Health, notifies him that after careful consideration, the board of directors of the college has decided to close its doors to students and permanently retire from the field. The chief reason stated for the discontinuance was that Lincoln did not furnish the advantages which a college of medicine should have.

Graduation Exercises.—On May 20 the annual commencement exercises of the University of Nebraska, College of Medicine, Omaha, were held, when a class of nine was graduated and the annual address was delivered by Dr. William W. Keen, Philadelphia.——The seventeenth annual commencement of Creighton Medical College, Omaha, was held May 1, and a class of 29 was graduated. The degrees were conferred by the president, Eugene E. Magevney, and Dr. Archibald L. Muirhead, vice-dean of the school, delivered an address on "Thoroughness." At the annual banquet, Dr. Frank E. Coulter presided as toastmaster.

Organization of Hospital Staff.—The organization of the staff of the Douglas County Hospital, Omaha, has been effected by the county commissioner. The position of chief of staff has been done away with, and an executive council has been substituted, composed of Drs. Herschel P. Hamilton, Palmer Findley, and Frederick W. Lake. Dr. Wilson O. Bridges has been appointed consulting physician and the heads of departments are Dr. Paul G. Woolley, pathology; Dr. Solon R. Towne, hygiene and sanitation; Drs. Frederick W. Lake and Rudolph Rix, diseases of children; Dr. Palmer Findley, gynecology; Dr. Frank E. Coulter, mental and nervous diseases; Dr. Alonzo E. Mack, obstetrics; Dr. Frank S. Owen, diseases of the eye and ear; Dr. William F. Milroy, medicine, and Dr. Herschel P. Hamilton, surgery.

NEW HAMPSHIRE

State Society Election.—At the one hundred and eighteenth annual meeting of the New Hampshire Medical Society, held in Concord May 13 and 14, Dr. John B. Deaver, Philadelphia, delivered the oration on surgery, and Dr. Thomas M. Rotch, Boston, the address on medicine. The following officers were elected: President, Dr. Frank Blaisdell, Goffstown; vice-president, Dr. Alonzo S. Wallace, Nashua; councilors, Drs. Herbert K. Faulkner, Keen; Emery M. Fitch, Claremont, and Frederic Von Tobel, Lebanon; trustee, Dr. Silas M. Dinsmore, Keene; examiner, Dr. James T. Greeley, Nashua; delegate to the American Medical Association, Dr. Ferdinand A. Stillings, Concord, and alternate, Dr. William E. Reed, Nashua. At the annual banquet, Dr. Howard N. Kingsford, Hanover, officiated as toastmaster.

NEW YORK

To be Sued for Death of Physician.—It is announced that the city of Troy is to be called on to defend a suit for damages for $150,000 for the death of Dr. Harry O. Fairweather, who died recently as the result of a fall from a ladder which broke while he was fighting a fire as a member of the volunteer fire department, the ground of suit being that death was brought about through the negligence of the city.

Bills Become Laws.—Governor Hughes has signed the Woods bill requiring death and birth certificates to be forwarded by local health boards to the State Bureau of Vital Statistics on or before the fifth day of each month. Under the present law no time is specified.——The Davis bill has also been signed prohibiting physicians who receive a salary from the state from taking fees for reporting tuberculosis cases.——The bill abolishing the Quarantine Commission and transferring its duties to Dr. Alvah H. Doty, health officer of the Port of New York, has been signed by the governor.

New York City

Personal.—Prof. Charles Baskerville, director of the chemical laboratory, College of the City of New York, sailed for London, May 15, to attend the Seventh International Congress of Applied Chemistry.——Dr. and Mrs. Frederick S. Dennis returned from Europe May 21.

Hospital Fund Distributed.—The distributing committee of the Hospital Saturday and Sunday Association appropriated $72,000 of the funds received, the largest awards being made to the Montefiore Home and Hospital for Invalids and Mount Sinai Hospital, each of which received $7,200.

Sea Air for Babies.—St. John's Guild has opened its seaside hospital for babies at New Dorp, Staten Island, two weeks earlier than usual, the boats having already begun three daily trips. Under the policy of the guild the sick child secures admission for itself and mother and all children under the age of 6 in the family.

OKLAHOMA

Commencement.—A class of six was graduated from the College of Medicine of Epworth University, Oklahoma City, May 10. Chancellor George H. Bradford and Bishop W. A. Quayle delivered addresses to the class, and Dr. Archa K. West, dean of the school, presented the diplomas.

State Society Meeting.—The seventeenth annual meeting of the Oklahoma State Medical Association was held in Oklahoma City, May 11-13. The following officers were elected: President, Dr. Walter C. Bradford, Shawnee; vice-presidents, Drs. Charles L. Reeder, Tulsa; David A. Myers, Lawton, and John W. Duke, Guthrie; secretary-treasurer, Dr. Claude A. Thompson, Muskogee, and councilors: First District, Dr. J. Asa Walker, Shawnee; Second District, Dr. John W. Duke, Guthrie; Third District, Dr. Charles R. Hume, Anadarko; Fourth District, Dr. Adam B. Fair, Frederick; Fifth District, Dr. Frederick R. Sutton, Bartlesville; Sixth District, Dr. William G. Blake, Tahlequah; Seventh District, Dr. Ira W. Robertson, Dustin; and Eighth District, Dr. Herbert P. Wilson, Wynnewood. Tulsa was selected as the place of meeting for 1910.

PENNSYLVANIA

Inebriate Hospital Bill Vetoed.—The bill providing for the erection of a state hospital for inebriates, which carried with it an appropriation of $100,000, was vetoed by the governor, who is said to have been really in favor of the measure, but was obliged to cut off all new institutions on account of the fact that the legislature had made appropriations of $20,000,000 more than the income of the state.

Vital Statistics.—During March there were reported in the state 13,377 cases of communicable disease, chief among which were measles, 4,507; scarlet fever, 1,881; tuberculosis, 1,375; diphtheria, 1,283; chickenpox, 1,207; pneumonia, 943; whooping cough, 794; typhoid fever, 690, and mumps, 530. During February there were 10,230 deaths reported, of which 1,503 were due to pneumonia, 876 to tuberculosis, 528 to accidents, 516 to diseases of early infancy, 451 to nephritis, 352 to cancer, 198 to influenza, 161 to diphtheria, 136 to typhoid fever, 124 to scarlet fever, 111 to whooping cough, 82 to measles, and 68 to suicide.

Philadelphia

Free Bed for Jefferson Hospital.—In memory of her son, Dr. Charles N. Williams, Mrs. Sarah E. Williams, of Wellsboro, has endowed in perpetuity, a free bed in the Jefferson Hospital at an expense of $5,000.

Personal.—Dr. R. Bruce Burns was stricken with apoplexy, May 19. He is reported to be convalescing in the Pennsylvania Hospital.——Drs. Eli L. Klopp and Dr. Augusta A. Koenig sailed for Europe May 22.

Failed to Register Births.—Five physicians and three midwives, who were arraigned, April 30, charged with failure to report births within ten days, as required, are said to have pleaded guilty and paid the cost of the proceedings.

Ex-Residents Meet.—The first meeting of the ex-residents association of St. Joseph's Hospital was held May 10. At the business meeting the following officers were elected: President, Dr. George M. Marshall; vice-president, Dr. John J. Moylan; secretary and treasurer, Dr. Joseph M. Spellissy, and historian, Dr. Joseph E. Roberts.

TENNESSEE

Endow Memorial Room.—Two families in Memphis and one family in Oxford, Miss., have endowed a memorial room in the new Baptist Memorial Hospital, Memphis, at a cost of $1,000.

Alumni Election.—The Alumni Association of Memphis Hospital Medical College, at its annual election, April 29, elected Dr. Landon A. Yarbrough, Covington, president; Dr. R. E. Hering, Arlington, vice-president; Dr. Buford N. Dunavant, Memphis, secretary, and Dr. D. Max Henning, Memphis, treasurer.

Society Meetings.—At the semi-annual meeting of the Dickson County Medical Association, held in Dickson March 12, Dr. W. W. Walker was elected president; Dr. Joseph C. Flowers, vice-president; Dr. William S. Scott, secretary, and Dr. William J. Sugg, delegate to the state medical association, all of Dickson.——Claiborne County Medical Society was organized at Tazewell February 3, with Dr. Monte B. Carr as president, and Dr. Patterson as secretary.——The Nashville Academy of Medicine met April 6, and elected the following officers: Dr. Duncan Eve, Sr., president; Dr. James M. King, vice-president; Dr. Holland M. Tigert, secretary-treasurer; Drs. Matthew C. McGannon, William H. Witt and Marvin M. Cullom, delegates to the state association, and Drs. Lucius E. Burch, Olin West and David R. Neil, alternates.

TEXAS

Health Board Organized.—The Board of Health of Austin has been organized with Dr. William J. Matthews, president; Dr. Thomas R. Pettway, vice-president; and Dr. Thomas S. Bennett, secretary.

Commencement.—The annual commencement exercises of the medical department of Fort Worth University were held May 4, when a class of 17 was graduated. The faculty address was made by Dr. Bacon Saunders, and the diplomas were awarded by the president.——The annual commencement exercises of the Baylor University, College of Medicine, Dallas, were held April 29, when a class of 16 received diplomas from the hand of President S. P. Brooks. The address of the evening was made by Dr. Garfield M. Hackler.——The sixth annual commencement exercises of the Southwestern University Medical College, Dallas, were held April 29, when a class of 9 was graduated. The degrees were conferred by R. S. Hyer, president of the University, and the doctorate address was delivered by Bishop A. C. Garrett.

Legislative Work.—The legislature has passed a bill providing for the appropriation of $40,000 for the establishment of a leper colony at some point in the state, at least five miles from any town, and making it a misdemeanor punishable by fine to conceal any case of leprosy.——An appropriation of $90,000 has been made for the erection of a new building for the criminal insane at the Southwestern Insane Asylum, San Antonio, and an appropriation of $35,000 for each of the state asylums for the care of the consumptive insane.——The tuberculosis commission bill was killed in the house May 3 by a vote of 59 to 35. The bill provided for the creation of a commission of three physicians experienced in dealing with tuberculosis, to be appointed by the governor, and to be furnished with $5,000 for the gathering of information.

State Society Election.—At the forty-first annual meeting of the State Medical Association of Texas, held in Galveston, May 4-6, the following officers were elected: President, Dr. Witten B. Russ, San Antonio; vice-presidents, Drs. W. N. Wardlaw, Plainview; Charles M. Alexander, Coleman, and Joseph W. Largent, McKinney; councilors: First District, Dr. Felix P. Miller, El Paso; Fourth District, Dr. Stoyell E. Parsons, San Angelo; Eleventh District, Dr. Alfred L. Hathcock, Palestine; Thirteenth District, Dr. John H. Ball, Crystal Falls; and Fourteenth District, Dr. Frank D. Boyd, Fort Worth; trustee, Dr. John S. Lankford, San Antonio (re-elected); delegates to the American Medical Association, Drs. Edward H. Cary, Dallas; William M. Brumby, Austin, and Frank Paschal, San Antonio, and alternates, Drs. Ira C. Chase, Fort Worth; William R. Thompson, Fort Worth, and Hatch W. Cummings, Hearne. Dallas was selected as the next meeting place.

VERMONT

Tuberculosis Exhibit.—The State Tuberculosis Commission gave its exhibit in Rutland May 12 and 13. The exhibitions are being given in all the larger towns of the state, and in addition to the exhibit itself, illustrated lectures are delivered.

Personal.—Dr. Bertrand J. Andrews, Burlington, celebrated the twentieth anniversary of his appointment as superintendent of the Mary Fletcher Hospital recently.——Dr. Henry D. Chadwick, Pittsford, has been appointed superintendent of the new state tuberculosis hospital to be established at Westfield, Mass.——Dr. John D. Hanrahan, Rutland, celebrated the fortieth anniversary of his entrance into practice, April 12.——Dr. George C. Berkley, St. Albans, has resigned as surgeon of the First Infantry Vt. N. G.

WASHINGTON

Physician Sentenced.—Dr. Fred Peacock, Cathlamet, charged with manslaughter by causing the death of Madeline Longtaine as the result of an alleged illegal operation, is said to have been sentenced, April 2, to serve an indeterminate sentence from one to twenty years in the state penitentiary. Motion for a new trial was denied. In February last the defendant was shot and dangerously wounded by the mother of the deceased girl.

Medical Inspection of Schools.—Dr. H. Eugene Allen, chief medical inspector of schools, Seattle, in a report of his inspection work for the first half of the fiscal year, shows that the medical inspectors made 885 school visits and examined 37,948 pupils, recommended treatment in 5,483 cases and excluded conditionally from school 1,211 pupils on account of

scabies, pediculosis and ringworm. There were also 392 cases of contagious disease unconditionally excluded from the schools.

GENERAL NEWS AND COMMENT

Consumptive Camp in Hawaii.—Funds have been contributed for a camp soon to be erected at Honolulu for the open-air treatment of tuberculosis.

Examination in Public Health Service.—A board of medical officers of the Public Health and Marine Hospital Service will convene in Washington on June 14, at 3 B St., S. E., at 10 a. m., to examine candidates for admission to the grade of assistant surgeon in the service. Candidates must be between 22 and 30 years of age, graduates of reputable medical colleges, and must furnish satisfactory testimonials. The examination will be physical, oral, written and clinical. Assistant surgeons receive a salary of $1,600, and after four years' service are entitled to examination for promotion to the grade of passed assistant surgeon, with a salary of $2,000 per year. Promotion to the grade of surgeon is made according to seniority, and after examination, and this grade pays a salary of $2,500 a year. Officers are entitled to quarters for themselves and families, and all grades above that of assistant surgeon receive longevity pay. The tenure of office is permanent. For further information application should be made to the Surgeon General, Public Health and Marine Hospital Service, Washington, D. C.

The Carroll Fund.—The following subscriptions have been received since the last report:

Medical Officers of the Army	$ 40.00
Mr. John D. Rockefeller, New York	500.00
Dr. E. H. Sichler, Detroit	5.00
Dr. W. L. Adams, Palo Alto, Cal.	5.00
Las Vegas Medical Society, East Las Vegas, N. M.	20.00
Dr. Joseph Brettauer, New York	25.00
Dr. K. C. Melhorn, U. S. Navy, U. S. S. *Dixie*, Navy Yard, Philadelphia	5.00
W. G., San Francisco	5.00
Chicago Pathological Society	50.00
Nebraska State Medical Society	100.00
Dr. M. Klonk, Lodi, Cal.	2.00
Dr. Willis W. Waite, Syracuse, N. Y.	2.00
Cambridge Medical Improvement Society, Cambridge, Mass.	25.00
Crawford County (Ill.) Medical Society	15.00
Dr. William Pepper, Philadelphia	5.00
Dr. Mark W. Richardson, Boston	5.00
	$ 814.00
Previously acknowledged	3,825.65
Total	$4,639.65

Two thousand five hundred dollars is still necessary to raise this mortgage. There is information that at least $500 of this amount has been subscribed and will be forwarded before the session of the American Medical Association. It would be gratifying to all concerned if it could be announced at the session that the entire amount had been raised. All subscriptions should be sent to Major M. W. Ireland, Medical Corps, U. S. Army, War Department, Washington, D. C.

Societies.—At the annual meeting of the Connecticut River Valley Medical Association, held in Bellows Falls, Vt., May 6, Dr. John D. Proctor, Keene, N. H., was elected president; Dr. Ansel S. Miller, Brattleboro, Vt., vice-president; Dr. James S. Hill, Bellows Falls, secretary, and Dr. Edward R. Campbell, Bellows Falls, treasurer.——The Interstate Medical Club has been organized at Breckenridge, Minn., with the following officers: President, Dr. Timothy O'Brien, Wahpeton, N. D.; vice-president, Dr. Nathan F. Doleman, Tintah, Minn.; secretary, Dr. Clarence P. Rice, Breckenridge, Minn.; treasurer, Dr. Louis W. Armstrong, Breckenridge, Minn., and censors, Drs. Tobias Birnberg, Campbell, Minn.; A. Victor Young, Hankinson, N. D.; and Robert H. Devine, Wahpeton, N. D.——The second annual meeting of the Tri-State Railway Surgeons' Association was held in New Orleans, May 3, when the following officers were elected: President, Dr. James J. Haralson, Forest, Miss.; vice-presidents, Drs. Henry F. Wilkins, Rayville, La., and J. Mosley Alford, Ellisville, Miss.; secretary, Dr. Joseph D. Martin, New Orleans, and treasurer, Dr. Robert W. Thompson, Lumberton, Miss.——At the fifth annual meeting of the National Association for the Study and Prevention of Tuberculosis, held in Washington, May 13-15, more than 250 delegates from all sections of the country were present. The executive secretary reported that the association had gained 600 members during the year, and that 34 out of 40 state legislatures had considered legislation on tuberculosis. At the meeting of the advisory council Dr. Victor C. Vaughan, Ann Arbor, Mich., delivered an address on "Tuberculosis Legislation in Municipal and State Governments." Dr. Henry M. Bracken, Minneapolis, Minn., was elected president of the section. Great interest attached to the address of Dr. Homer Folks, New York, on recent tuberculosis campaigns and their results. In his opinion, the control of tuberculosis is a problem for local authorities, and he believes the most effective work that can be done by local organizations is to follow the example of the national association in forming local organizations and committees to take the responsibility of securing county and municipal control of the disease. Drs. William Osler, Oxford, England, and William M. Welch, Philadelphia, spoke of the results of the work on tuberculosis, and Speaker Cannon and Ambassador Brice gave their views regarding the outlook. Nathan Strauss, in his address, stated that he had discovered that one out of every eighteen samples of milk sold in Washington was tuberculous, and that one out of every ten dairies in the city supplied tuberculous milk despite the recent vigorous campaigns and that efforts had thus far failed to check the ravages of the disease.

CANADA

Memorial Chair.—At the recent convocation of McGill University, it was announced that $60,000 had been guaranteed by the committee to establish a chair of chemistry in memory of the late Professor Harrington.

Hospital Notes.—Montreal is about to have a hospital to be devoted entirely to the care of advanced cases of tuberculosis.——Grace and Western hospitals, Toronto, are to be amalgamated in a short time.——A new Western Hospital is to be erected soon, to cost $150,000.

Graduation Exercises.—At the annual convocation of the Western University Medical Department, London, a class of 23 was graduated. Dr. Hadley Williams delivered the faculty address, and Rev. E. B. Lancely was the orator of the occasion.——At the twenty-sixth annual graduation exercises of Manitoba Medical College, Winnipeg, May 13, Dr. Robert S. Thorton, member of the Provincial Parliament from Deloraine, delivered the principal address, and a class of 36 was graduated.

Tuberculosis in Prince Edward Island.—It is reported that out of the 950 deaths which occurred in Prince Edward Island during the year ended May 31, 1908, 142 were due to tuberculosis. The society for the prevention of tuberculosis in that island has recently been rejuvenated and medical men have been appointed to the chief offices therein. Lectures are being given and a dispensary has been established in Charlottetown. An appropriation of $600 has been made by the provincial parliament for the work against tuberculosis.

Personal.—Dr. Dyer, Vancouver, B. C., has been appointed assistant to the medical health officer.——Dr. Albert K. Pyne, Toronto, has been appointed chairman of the local milk commission.——Drs. Geoffrey Boyd and Charles Trow, Toronto, have gone to Europe.——Dr. George A. Armstrong, Montreal, has returned from Paris.——Dr. Robichaud, Montreal, has resigned as superintendent of the Hôtel Dieu, Montreal, and has been succeeded by Dr. G. H. Baril.——Dr. H. H. McIntosh, Vancouver, B. C., has resigned as superintendent of the Vancouver General Hospital, and has been succeeded by Dr. Whitelaw.——Dr. James Sampson, Windsor, Ont., has been appointed chief lecturer on "Old Age Pensions" by the Dominion government.——Dr. William I. Senkler, Vancouver, is reported to be critically ill in St. Vincent's Hospital, Portland, Ore.——Dr. James Christie, on May 1, celebrated the fiftieth anniversary of his entry into practice in St. John, N. B.——Dr. J. B. Leathes, F.R.S.C., London, has been appointed professor of chemical pathology in the faculty of medicine of the University of Toronto.

FOREIGN

Psychologic Congress.—The sixth International Congress of Psychology will convene at Geneva, Switzerland, August 3-7, under the presidency of Prof. Thomas Flournoy. The general topics for discussion are "Feelings," "Subconsciousness," "Measure of Attention," and "Religious Psychology." The special topics are the "Psychopedagogical Classification of Backward Pupils," "Pedagogical Psychology," "Orientation at a Distance," and "Perception of Position and Movement of the Body and Limbs." Under standardization will be included terminology, standard colors, enumeration of errors in testimony experiments, notation of age of children and mathematical determination of numerical results of experiments.

Recent Deaths in the Profession Abroad.—In addition to the deaths of members of the profession mentioned by our foreign correspondents, we record those of E. Galvagni, professor of clinical medicine at Modena since 1880, a leader in the profession in Italy, and author of important works on peritonitis,

polyserositis and other phases of internal medicine; E. Kufferath, professor of obstetrics at Brussels; J. R. Costa, professor of medical physics at Buenos Aires; E. R. Haug, professor of otology at Munich; A. Almarez, professor of chemistry at Mexico; P. de A. Magalhaes, professor of surgical pathology at Rio de Janeiro and author of numerous works on liver and cardiovascular affections, neuritis and beriberi.

British Medical Association.—The seventy-seventh annual meeting of the British Medical Association will be held in Belfast, Ireland, July 23 to 31, 1909. The scientific portion of the meeting will begin with the president's address, on Tuesday, July 27, and the sections will meet on the three following days. Saturday, the 31st, will, as usual, be reserved for excursions. The address in medicine will be delivered by Dr. R. W. Philip, physician to the Royal Infirmary and Royal Victoria Consumption Hospital, Edinburgh; that in surgery by Mr. A. E. J. Barker, professor of surgery, University College, London; and that in obstetrics, by Sir John W. Byers, professor in midwifery and diseases of women, Queen's College, Belfast. The "Popular Lecture," which of late years has become a feature and consists of a lecture open to the public at large, on some subject of general interest and welfare, will be delivered by Dr. A. J. Macdonald. In the Section on Hematology and Vaccine Therapy, presided over by Sir Almroth Wright, there will be papers on "Typhoid-Carriers" (Dr. Houston); "The Bacteriology of Cystitis" (Captain Douglas); and "The Bacteriology and Vaccine Treatment of Acne" (Dr. Fleming). A discussion on "The Early Diagnosis of Tuberculosis" will be opened on July 29 by Professor Calmette of Lille. In the Section on Hygiene and Public Health, compulsory notification of all forms of tuberculosis, latent infections of the diphtheria bacillus, and sewage discharge into tidal waters will be among the subjects. The discussion on latent infections of the diphtheria bacillus will be jointly with the Laryngologic Section. In the Section on Medicine, metabolism, the medical aspects of athleticism, and adolescent albuminuria or mucous colitis will be discussed. In the Navy, Army and Ambulance Section, the following subjects are proposed:

1, Effect on Health of Service in Submarine Boats; 2, Conditions of Life on Boys' Training Establishments on Shore; 3, Medical Arrangements for War in Ships of Dreadnought Type; 4, A Detailed Scheme for an Unexpected Landing Party, Using Material Available on Board Ship; 5, Pitfalls for the Recruiting Medical Officer; 6, Probable Effects in the Services of the New Treatment of Syphilis by Means of Organic Arsenical Compounds; 7, The Importance of the Permanent Attachment of Ample Transport under the Command of the Medical Officer to each Field Medical Unit; 8, The Infective Pneumonias, their Incidence, Causes, Prevention, and Treatment during a Campaign; 9, The Existing Ambulance Organization of the Home Railway Companies, with Suggestions for its Amplification and Unification; 10, The Effects of Recent Research on the Work of Colonial Medical Officers; 11, Diagnosis and Treatment of Pulmonary Tuberculosis in the Service; 12, Collection and Disposal of Wounded in War.

"The Graver Forms of Puerperal Sepsis and Endometritis" will occupy the attention of the Section on Obstetrics and Gynecology, and "Eye Injuries in Relation to the Workman's Compensation Act," "Vascular Diseases of the Retina," and "Diseases of the Lymphoid Tissues of the Conjunctiva" (Mr. Treacher Collins, F.R.C.S.) that of the Section on Ophthalmology. The Section on Pharmacology and Therapeutics will discuss spinal anesthesia and the treatment of edema. In the Section on Psychological Medicine, the subject of "Somatic Delusions and Local Lesions" will be opened by Dr. C. A. Mercier. The Section on Tropical Medicine will discuss, on July 28, "Persistence of the Tropical Diseases of Man Due to Protozoa" (C. W. Daniels, M.D.); July 29, "Treatment of Chronic Recurrent Dysentery with Special Reference to the Possibilities of Surgical Treatment" (Mr. J. Cantlie, F.R.C.S); July 30, "Feeding and Treatment of Children in the Tropics" (Dr. W. Carnegie Brown). The annual dinner will take place on July 29, and the reception on July 30. The recreations, which are always an important feature with the British Medical Association, will include a golf competition, a cricket match, and in all probability, the launch of one of the great steamships for which the Belfast shipyards are famous.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 15, 1909.

Bill to Regulate the Use of Anesthetics

As shown in previous letters, the large and increasing number of deaths which occur under anesthesia has aroused considerable public attention and a bill is now under consideration in parliament to regulate their administration. It is to be a penal offense for any person not medically qualified to administer a drug for the purpose of producing a state of unconsciousness during any medical or surgical operation or during childbirth. For the first offense the maximum penalty is $50 and for the second $100. Two exemptions are allowed. An anesthetic may be administered under the immediate direction and supervision of a legally qualified practitioner or in the event of the person administering it having reasonable grounds for believing that the delay caused by calling in a physician would endanger life. The bill is not to apply to those already registered under the Dentists Acts. It will be a severe blow to the numerous unqualified dentists who practice, though they are largely the product of circumstances. Registration of dentists was instituted in 1878. Before this date any one could practice dentistry. The supply of dentists with a qualification of a medical college was then small and all persons who were then engaged in the practice of dentistry were admitted to the register. After that period only qualified dentists were admitted to the register, but the supply has never equalled the demand for dentists. Consequently there is a large body of unqualified practitioners throughout the country. Until recently they were not in any way interfered with as long as they did not adopt the title "dentist," which is reserved for registered practitioners. This did not place them at much disadvantage, as they adopted such equivalent designations as "tooth specialist," "dental institution," etc. But recently the law has been set in motion against them and the courts have decided that the use of such designations is illegal, as they imply that the person using them is a dentist. Even the exhibition of sets of teeth in the window or the notice "teeth skilfully extracted" are now penal. Under the bill these practitioners will not only be prohibited from administering an anesthetic, but no physician may administer one for them.

Discomfiture of the Antivaccinationists

Mr. Lupton, M. P., the leader of the antivaccinationists in the House of Commons and a truculent advocate of this fallacy, asked a question in the House which received an unexpected answer. He inquired whether during the late outbreak of smallpox in Bristol the many unvaccinated children in the city showed any special liability to the disease. The president of the local government board, Mr. Burns, replied that any comparison between vaccinated and unvaccinated children should be made in respect to those children who were exposed to infection. At Bristol the persons who suffered from smallpox or were in contact with them were so carefully supervised that few unvaccinated children were so exposed. Of the children under the age of 14 so exposed 9 were attacked by the disease. Two of these had been vaccinated and in them the attacks were abortive. The remaining 7 children were unvaccinated, except that 2 were vaccinated during the incubation period of the disease. Of the 7 unvaccinated children 3 died, all of whom suffered from confluent smallpox.

Malaria in British Colonies

Major Ross, the discoverer of the malarial parasite, delivered a lecture on "The Campaign Against Malaria" before a distinguished audience, including Lord Rayleigh, Sir William Crookes, Sir James Dewar, Professor Arrhenius, and others at the Royal Institution. He pointed out that in Italy by distribution of quinin and mechanical protection against mosquito bites the number of deaths from malaria had been reduced from 21,033 in 1887 to 4,160 in 1907. At Ismalia, as the result of the methods which he had advised for the reduction of mosquitoes the disease had ceased to be endemic since 1904. Work at Klang and Port Sweetenham in the Malay States had been equally successful. Excellent campaigns against the disease had also been conducted at Durban, Hong Kong, Khartum, Candia, and Port Said. But in India he could find no evidence of a generalized effort against the disease. In 1907 statements were published of what had been done in 21 colonies. Only in 7—Southern Rhodesia, Papua, Mauritius, British Central Africa, Gambia, Ceylon, Southern Nigeria—was there evidence of any real interest in the matter. The reports from the Bahamas, Barbadoes, Jamaica and St. Kitts-Nevis showed nothing but neglect of public duty. The immediate responsibility for the neglect lay with the heads of the sanitary services of the colonies. Though many capable individuals were to be found in those services colonial governments, as a rule, were too careless in selecting the men to whom they entrusted the public health.

London School of Tropical Medicine

The London School of Tropical Medicine has started an advanced course in medical zoology which includes protozoology,

arthropodology and helminthology. Arrangements have been made so that the course in all three subjects can be taken during three months or the whole time may be spent on one subject. Only students who have attended the ordinary course or those who can satisfy the teachers that they possess sufficient rudimentary knowledge are eligible. Special arrangements may be made for teachers who desire to devote themselves to any particular branch or to undertake research work.

State Registration of Nurses

An influential deputation which was recently received by the prime minister urged that facilities should be given by the government for the introduction of a bill establishing a statutory council for the examination of trained nurses. Sir Victor Horsley spoke on behalf of the British Medical Association and said that the medical profession desired to see the nursing profession properly equipped. The premier pointed out, however, that there was considerable opposition to the proposal. He had the views of persons who were entitled to the highest consideration who were altogether opposed to the proposed legislation. These included many of the chairmen of the London and provincial hospitals. He had also received a list of names of 100 members of the medical profession in London, including some of the most eminent, particularly in the department of obstetrics and surgery and a list of 120 names in the provinces who were entirely opposed to the proposal. So also were 49 matrons of the London hospitals and 109 matrons of the provincial hospitals. If such registration was enacted it would not in the least prevent persons who had not satisfied the examiners from pursuing the profession of nursing. Those outside the pale could carry on their profession as before. Under the circumstances he did not think the deputation could expect him to do more than promise to give the most careful consideration to their arguments.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 29, 1909.

Commercial Medical Societies

The *Association Générale de prevoyance et de secours mutuels des Médecins de France* celebrated in April its semi-centennial, as described in my letter on page 1592. At the general assembly the following day a question of professional ethics was raised which has occupied professional attention for a long time, but has not hitherto dared to show itself openly.

There exist in France certain medical societies claiming to be provident societies, which, in reality, are only commercial societies, and tend to deprive physicians who have subscribed to their statutes of liberty of conscience. The chief of these societies is the *Prévoyance médicale*, which is a purely commercial association, consisting of physicians and some pharmacists who possess either stock in mineral waters, or mineral springs themselves, and who undertake to recommend them in preference to other similar waters. Moreover, the physicians who belong to these societies are induced to prescribe soaps, medicated baths, meat preparations, etc., and even pharmaceutic products, such as the "grains de Vals." Officially, the society professes to leave its members entire liberty, not requiring them to prescribe its products save when the proper indication presents itself. But, as a matter of fact, those who prescribe them little are not long in being called to order, and the representative of the society does not hesitate to say to them "when an indication for prescribing our product fails to present itself you must know how to make one." In return the society assures to its members the following advantages:

Every member holds one or more shares in the society, which distributes an annual dividend, naturally varying according to the success of the sales of the society's products. Moreover, the society promises to all its adherents, at 60 years of age, a retiring pension, which at present amounts to 1,000 francs; their widows are also pensioned, and their orphans supported till they become of age. Quite recently the Provident Medical Society has organized a fund for indemnity in cases of sickness; for this the members have no contributions to pay, but must prescribe alimentary products, farinaceous foods, and other dietetic products. It is hardly ten years since the opinion of the entire medical body was almost unanimous for rejecting the principle of such an association. There were only certain physicians, very few in number, who were affiliated to this society, which at that time called itself the Society of Mineral Waters; and in 1900, when the question was put to the Congress of Deontology and Professional Medicine, Dr. Poirson, president of the Union of Medical Syndicates, declared—without calling forth any protest—that the Provident Medical Society was one of those commercial affairs from which the physician ought to keep himself aloof. Unfortunately, since then too large a number of physicians have changed opinions on this question, either because of the increasing difficulty encountered in living by the normal practice of their profession, or because they have not sufficiently reflected on the gravity of the consequences for the medical body that the spread of such concerns must have—consequences grave, not only from a material point of view, for in proportion as these practices should become known to the public, the latter will less and less seek professional advice, which they know not to be disinterested; but still more, from a moral viewpoint, because such practices will end in the physician being regarded simply as an ordinary tradesman.

The local society of the department of Landes is disturbed at this state of things, which tends to discredit the entire medical body "by making of the physician a peddler in specialties." It consequently appealed to the board of the *Association Générale* mentioned above, presenting a resolution calling on the association to point out to all its members and to all the physicians of France, the moral danger that the medical body runs in entering on the path of so-called provident medical, but really commercial, societies. In conformity with the statutes, the board of officers has had to express its opinion on this resolution. It has done so very courageously through its general secretary, Dr. Lepage, who in his report has asked that the resolution of the Society of Landes be taken into consideration, that is to say, be referred for examination to the local societies, to be then discussed at the general assembly in 1910. A group of physicians, however, demanded: (1) That the resolution of the Society of Landes be erased from the orders of the day, and consequently that it should not be discussed; (2) that in the report of the general secretary everything relative to this question should be suppressed, and that this part should be neither read in session nor printed in the bulletin of the association. This maneuver of the partisans of the *Prévoyance médicale* society failed completely, and indeed resulted in the immediate opening of a discussion on the question. On the observation of one delegate, that everyone under the circumstances ought openly to take his responsibility, it was decided that the vote should be public and by name, each delegate answering to his name with *Yes* or *No*. This is the first time that a general assembly of the association has voted in this fashion. The vote resulted as follows: For taking under consideration the resolution of the Society of Landes, 113; against, 17. The resolution is therefore referred for the consideration of local societies, and without prejudging the view that these societies will take, we may congratulate ourselves that the general assembly should have taken a decision so conformable to the honor and dignity of the medical profession.

On the other hand, it is interesting to note that the council of the association of pharmacists complains equally of the existence of these so-called provident medical societies based on the exploitation of mineral waters and various other products. Recently, the council of the Union of Medical Syndicates has been overwhelmed with various propositions on this subject. Unfortunately, under the pretext of respecting the independence of the physician, the council has passed an order of the day which opens wide the door to all kinds of abuses and to commercial alliances between certain unscrupulous physicians and pharmacists. The administrative council of the Union of Medical Syndicates of France, holding that the physician ought to preserve absolute liberty of prescribing in regard to the patient, and to be dependent on nothing except his own conscience, denies to all professional bodies, medical or other, the right to dictate to him his conduct in this matter.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 6, 1909.

The New Imperial Insurance Bill

This bill, which I have mentioned in a previous letter, is creating a considerable interest among the classes affected. The pharmacists seem to be well satisfied, but all the other trades or professions make more or less criticism. On the part of the medical profession one can take many exceptions to the bill, and in most publications the proposed law is designated as unacceptable to the medical men. The business committee of the German Medical Association (Deutschen Aerzte Vereinsbundes) proposes some amendments which will be put before medical councils and societies for discussion.

The principal debate on the part of physicians will take place at the meeting of the German Medical Association (Aerztetag) which meets at Lübeck in June.

Personals

Prof. George Klemperer, for many years an assistant of v. Leyden, has been chosen director of the department of the city hospital, Moabit, as successor of the late v. Renvers. This choice not only corresponds to the expectations of the initiated, but is fully justified by the scientific qualities of Klemperer. Klemperer has been for some years in charge of the second medical division of the same hospital, so that his promotion to a higher position is quite in order.

Professor Stern of Breslau, the superintendent of the university policlinic in medicine at that place, has accepted the call as director of the medical clinic at Greifswald in place of Minkowski. Stern has secured his reputation by the preparation of a very widely used text-book on the connection between trauma and internal diseases.

Professor Heine of Königsberg has accepted the call as director of the clinic and policlinic for ear diseases at Munich as successor of the lately deceased Professors Bezold and Haug. In this case the disputed question which I have lately referred to, regarding the combination of instruction in laryngology and otology, has been settled for Munich by retaining the previous status of separate instructors for the two specialties.

On May 3 Professor Guttstadt died at Berlin, aged 69. Guttstadt was a member of the Prussian National Statistical Office and had rendered very good service in the field of medical statistics and public hygiene by a series of excellent investigations.

April 20, Professor Laqueur, formerly director of the Strassburg eye clinic, died at the age of 69. He was at one time an assistant of v. Gräfe and later of Professor Liebreich of Paris, but was professor of ophthalmology at Strassburg, 1872 to 1907.

The interregnum at the medical clinic at Bonn, which has lasted for nearly a year, is finally terminated. The direction of the policlinic, which was rendered vacant when Professor Leo was appointed as successor of Professor Binz, has been assumed by Professor Krause, the director of the medical policlinic of Jena. The successor of v. Krause is Professor Lommel.

Private Hospital for Middle Class Patients

The question, still unsettled for Berlin, whether beds shall be provided in city hospitals for middle class patients, has received a temporary solution in our neighboring city, Charlottenburg, by the establishment of a clinic with 50 beds for middle class patients in the Central Charities building (Zentral-Wohlfahrts-Gebäude), erected and dedicated a few days ago by the Women's Patriotic Association of Charlottenburg (Vaterländischen Frauenverein Charlottenburg). The daily price for a bed is 6 to 10 marks ($1.50 to $2.50). The building is further notable as furnishing a central bureau for the charitable work of the city of Charlottenburg. The house contains rooms for the care of pulmonary patients, a diet kitchen with special rooms for the feeding of school children, a room for the care of infants, the central bureau of the workingmen's recreation parks, a place for the care of alcoholic patients and an intelligence office for summer outings for people of moderate means and some other society bureaus. There is no doubt that such a centralization of charitable work in many respects will be very advantageous. The business between the individual charitable societies is facilitated and accelerated, time and labor are spared, and an equable distribution of assistance is assured.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 8, 1909.

Health Statistics for Austria

A government report for 1907 contains some very instructive figures. According to this there were altogether 26,000,000 inhabitants in Austria (without Hungary); 731 hospitals, with 52,870 beds were available for patients; compared with 1906, this means an increase of 17 hospitals and 1,350 beds. The number of in-patients occupying these hospitals was 615,125, an increase of 22,600 against 1906. The proportion between population and hospital beds varied very much. Thus in Vienna there was one bed for each 269 persons, in Triest one for each 112 inhabitants, in Galicia one for 1,208 only. The most important affections treated in the hospitals were: injuries, 96,616; ophthalmic cases, 37,125; venereal diseases, including syphilis, 39,740; tuberculosis, 31,845; bronchial catarrhs, 27,046; diseases of female sexual organs, 25,223; rheumatic affections, 22,868; diseases of stomach, not malignant, 19,142; heart disease, 13,948; cases of malignant tumors, 12,860; diseases of the bones, 12,981; cases of pneumonia, 11,512. There were 69 cases of smallpox with three deaths in this year, and one fatal case of Asiatic cholera.

Of course these figures comprise only the cases admitted into hospitals. In order to indicate the actual numbers of cases of disease, it must be stated that only 11 7/9 per cent. of all tuberculous persons who died that year died in hospitals. There were 96,000 deaths from this cause alone in the empire.

There were 32 public and 9 private lunatic asylums with 29,860 patients: of these 3,646 suffered from acquired idiocy, 2,712 from paranoia, 2,286 from general paralysis of the insane, 1,748 from alcoholic mania, 1,524 from epileptic insanity, 1,180 from congenital insanity, 500 from congenital idiocy. Of each 100 insane persons only 51 per cent. were in asylums, 70 per cent. in infirmaries, and 39 per cent. in private care. In 18 maternities with 1,917 beds, there were 29,681 mothers with 20,969 children; furthermore, there were 8 foundling asylums with 731 cots and 556 beds for wet-nurses. In these institutions 41,098 children were born. In 22 institutions for deaf-mutes, 1,938 persons were cared for while 27,500 were cared for privately. In 15 institutions for the blind 1,159 inmates were counted against 12,890 cared for privately. This year 767,950 persons were vaccinated for the first time. There were 263 *Curorte* or health resorts with nearly 500,000 health-seekers. Carlsbad with 60,000 visitors heads the list. There were 70 *Curorte* with 20,000 to 30,000 visitors paying the health tax (*Curtaxe*) and 62 with 10,000 to 20,000 visitors. The remainder are smaller health resorts.

It is interesting to note that 65 per cent. of all medical men held public appointments, of whom more than 30 per cent. had to rely on their income only, as they had to give all their time to their appointments while the other 70 per cent. of this class of physicians were allowed to follow private practice as well. The number of appointments is increasing constantly; so that in a few years to come every physician in this country will hold some position paid for by the community. This will be the case especially when the new bill for *Socialversicherung* (compulsory insurance of wage-earners) becomes law. Out of all practitioners 95 per cent. are doctors of medicine; 5 per cent. are masters of surgery or masters of obstetrics only, and this latter degree is no longer granted; all graduates must go in for the M.D. diploma. The number of practitioners has lately been increasing even more slowly than the population, but still the proportion is one doctor for each 2,200 of the population. As there were 12,260 practitioners in the country, naturally the towns are better off, having one doctor for each 900 to 1,200 inhabitants, while the country has a proportion of 1 to 2,600 and 1 to 5,600. As regards the income trustworthy information is of course hardly obtainable, but the values of appointments are known. The highest salary is $2,600 a year with certain emoluments, amounting to about 30 per cent., the lowest $300. Only 6 per cent. of the salaries reach the upper limit; 22 per cent. are at the bottom; the majority have $600 to $1,500 a year with the above-mentioned income.

Pharmacology

AGAIN LLOYD'S "CONSUMPTION CURE"

The "Discoverer" Is Awarded a Diploma of Merit by a Learned (?) Society

On two occasions[1] we have given space to a "consumption cure" fake known at various stages of its career as "Lloyd's Specific," "Sol. Anti-Phthisis (Lloyd)," "Aiesol," and finally "Re-Stor-All," the promoter being one Judd Q. Lloyd of St. Louis. Under the first three names it was advertised as an "ethical" remedy; the last name was given it when a company was organized by its promoter to place it on the market as a "patent medicine." This, at least, was the avowed intention. We find, however, in the daily papers that the nostrum is advertised not under its "patent medicine" name, "Re-Stor-All," but under its "ethical" name, "Aiesol." One adver-

1. THE JOURNAL, Nov. 21, 1908 and Dec. 5, 1908; reprinted in pamphlet form.

tisement which starts out with what is alleged to be a testimonial from a physician, contains in addition the following statement:

"On Dec. 15, 1908, the London Society of Science, Letters and Art, of London, England, which was established in 1881 for the purpose of determining the highest scientific and literary achievements of each year, awarded a diploma of merit to Judd Q. Lloyd in recognition of his valuable services to mankind in discovering 'Alcsol,' the only successful treatment for consumption, and was elected an honorary member of that well-known society. Only one such diploma is issued each year in any country."

It seemed strange that a "well-known society" should award a "diploma of merit" to Judd Q. Lloyd for having "discovered" a fake consumption cure and especially that this "society" should rank the "discovery" as the "highest scientific and literary achievement" in the United States for that year. We tried to find out, therefore, something about the society, but were unable to get any trace of it in the various lists of scientific organizations in London. To obtain light on the subject, the editor of London *Truth*, who has shown up so many fake "societies," was written to. He replied as follows:

"The Society of Science, Letters and Art, of London, is a swindle to which at one time we devoted a great deal of attention, and it figured for a time in the *Truth* 'Cautionary List,' but it has lapsed into obscurity in recent years, and we have not referred to it for some time. The concern was started by a man named Albert Sturman who at one time kept a private school for boys in London and also acted as an agent for the sale of various bogus degrees produced on your side of the Atlantic. He then started a degree factory of his own under the above title. He took a house in Kensington and got together a serio-comic literary society, the members of which were entitled to attend *conversaziones*, concerts, etc., in his front parlor, and to dub themselves 'F.S.Sc. (Lond.)' if they paid the fellows' subscription. He also sold them hoods and gowns, specially designed for the benefit of church organists, and generally practiced all the tricks of the trade. He also did very good business by instituting a system of examining small private schools in the provinces and giving the pupils certificates. As he styled his examinations the "Kensington Locals"—which suggested that they were in some way connected with the Government Science and Art Department at South Kensington—country schoolmasters and schoolmistresses patronized these examinations extensively; and I need not tell you that Sturman gave them good value for their money by always passing a fair proportion of pupils.

"In an evil moment for himself, Sturman, who was a stupid and illiterate man, came here to see us, and we published the interview, which made very funny reading. After this the concern went down hill and Sturman himself died six or seven years ago. His wife, however, who was really the active partner in the business, carried it on afterward with some success, but, as I have said, it has dropped out of sight recently, though one occasionally comes across people who display the 'F.S.Sc. (Lond.).'"

Nostrums Containing Habit-Forming Drugs

We recently referred to the large amount of information of interest to physicians which appears in the "Report of the President's Homes Commission," and we quoted from the report a list of "patent medicines" which contained practically no medicinal agents except alcohol. In another part of the same report, Dr. Lyman F. Kebler, chief of division of drugs of U. S. Department of Agriculture, says: "There are on the market many medicinal preparations which contain as ingredients habit-forming drugs. Such drugs are: Alcohol; opium and its derivatives, notably morphin, codein and heroin; cocain; chloral; cannabis indica; acetanilid; etc." Some of these preparations containing habit-forming drugs other than alcohol are given in the "President's Homes Commission" report and are here arranged alphabetically under the habit-forming drug which they contain:

CANNABIS INDICA

One Day Cough Cure (also morphin)	Piso's Cure

CHLORAL

Captol	D. D. D. Remedy

COCAIN

Agnew's Powder	Coco-Bola
Anglo-American Catarrh Powder	Tucker's Asthma Cure

OPIUM AND ITS DERIVATIVES

Boschee's German Syrup (morphin)	Harrison's Opium Elixir (opium)
Brou's Injection (morphin)	Hooper's Anodyne, The Infant's Friend (morphin)
Carney Common Sense Cure (morphin)	Jayne's Expectorant (opium)
Children's Comfort (morphin)	Maguire's Compound Extract Benne (morphin)
Colwell's Egyptian Oil (opium)	Mexican Oil (opium)
Crossman's Specific Mixture (opium)	Mrs. Winslow's Soothing Syrup (morphin)
Dr. Drake's German Croup Remedy (opium)	One Day Cough Cure (morphin, also cannabis indica)
Dr. Fahrney's Teething Syrup (morphin)	Petit's Eye Salve (morphin)
Dr. James' Soothing Syrup (heroin)	Pierce's Smart Weed (opium)
Dr. Seth Arnold's Cough Killer (morphin)	Rexal Cholera Cure (opium)
Dr. Moffett's Teethina; Teething Powders (opium)	Shiloh's Cure (heroin)
Fruit-Lax (morphin)	Taylor's Sweet Gum and Mullein Compound (morphin)
Godfrey's Cordial (opium)	Tousley's Sneezeless Snuff (morphin)
Gowan's Pneumonia Cure (opium)	Tubercine (opium)
Habitina (morphin)	Victor Lung Syrup (opium)
	Watkin's Anodyne (heroin)
	Wright's Instant Relief (opium)

Association News

THE ATLANTIC CITY SESSION

Additional Announcements—Alumni Reunions—Meeting Places—Other Information

RAILROAD RATES

The Committee on Transportation and Place of Session announces the following rates to the Atlantic City Session. In the New England, Trunk Line, Central and Western passenger associations territories, a rate of one and one-half fare, based on fares in effect April 1, 1909. In the trans-Missouri territory, which includes the Dakotas, Nebraska, Kansas, and the eastern half of Colorado, double the one way fares to Missouri River stations, added to rate of fare and one-half for the round trip tendered therefrom (not to exceed otherwise summer tourists' selling fare to the eastern gateways of this association where same are in effect, added to fares tendered by the Central Passenger Association). From the trans-continental territory, which includes the states west of Colorado, special rates have been made up to the trans-Missouri territory above mentioned. A special rate of $26.00 has been made for the round trip from Chicago to Atlantic City. This is less than the rate of the fare and one-half, and all those who pass through Chicago or St. Louis may therefore avail themselves of this rate from Chicago or St. Louis. A return limit of 30 days is placed on the $26.00 rate from Chicago, and stopovers may be made at Baltimore, Washington and Philadelphia providing the ticket agent is so informed when tickets are purchased. A special rate of $28.20 has been made from Chicago to New York and return for those who wish to go to New York City. Those who wish to make this trip may stop over at Philadelphia by depositing their tickets at Philadelphia and then may go on to Atlantic City to attend the session, taking up the tickets on return to Philadelphia and continuing the trip to New York. The rates here given are for the first-class standard roads and are good on all trains except the 20th Century Limited and the Pennsylvania Special. The rate from Chicago by the differential roads is $25.70 in place of $26.00 by the standard, and to New York is $25.50 instead of $28.20, but the purchaser should remember that he is obliged to go and return by the same route. Up to the present time we have been unable to secure any special rates from the Southeastern Passenger Association. In all cases, before purchasing tickets, consult the local ticket agent and get all particulars in regard to the special rates from that particular point.

M. L. HARRIS, Chairman.

OTHER ALUMNI REUNIONS

A partial list of the entertainments to be given to the visitors at the Sixtieth Annual Session of the American Medical Association in Atlantic City, June 8-11, was published in THE JOURNAL May 15, page 1594. The following additional alumni reunions are announced for Tuesday, June 8:

7:30 p. m.—Harvard University alumni meeting and dinner at Hotel Windsor.

9 p. m.—Dartmouth Medical College alumni reunion at Hotel Chelsea.

9 p. m.—Jefferson Medical College alumni reunion and smoker at Hotel Royal Palace.

8:30 p. m.—Medico-Chirurgical College of Philadelphia alumni reunion and smoker at Hotel Rudolf.

8 p. m.—Vanderbilt University Medical Department alumni banquet at Young's Hotel.

Other alumni reunions are to be held this same evening for medical departments of the University of Vermont and the University of Minnesota and for Long Island Medical College and Tufts' Medical School.

"Wiener Studenten" will hold a reunion, supper and smoker at Old Vienna, Wednesday, June 9, at 6:30 p. m.

The University of Pennsylvania Medical Department alumni will have lounging, smoking and writing rooms at Young's Hotel the entire week; Vanderbilt medical alumni will also have their headquarters at Young's Hotel.

HOTEL HEADQUARTERS

A large list of hotels with an elaborately tabulated schedule of rates and accommodations, and also with a map of Atlantic City showing the locations of the hotels, appeared in THE JOURNAL, May 1, page 1410. Attention is again called to this list with a recommendation that members secure accommodations in advance. There will be no lack of accommodations in Atlantic City, but the headquarters hotels are apt to be filled before the session, and those who have special preferences as to hotels should secure accommodations at once. The following hotels have been designated as headquarters for the various sections in order that the section members may group themselves in hotels if desired:

OPENING SESSION	Auditorium, Young's New Pier
GENERAL HEADQUARTERS	Marlborough-Blenheim
PRACTICE OF MEDICINE	Hotel Dennis
SURGERY AND ANATOMY	Hotel Chalfonte
OBSTETRICS AND DISEASES OF WOMEN	Haddon Hall
DISEASES OF CHILDREN	Hotel Traymore
NERVOUS AND MENTAL DISEASES	Hotel Brighton
HYGIENE AND SANITARY SCIENCE	Hotel Seaside
PHARMACOLOGY AND THERAPEUTICS	Hotel Chelsea
OPHTHALMOLOGY	Hotel Rudolf
LARYNGOLOGY AND OTOLOGY	Hotel St. Charles
CUTANEOUS MEDICINE AND SURGERY	Hotel Shelburne
PATHOLOGY AND PHYSIOLOGY	Hotel Windsor
STOMATOLOGY	Hotel Royal Palace

OTHER SOCIETIES TO MEET

Many other societies will meet in connection with the Association session, as already announced. The American Society for the Study of Alcohol and Other Narcotics will hold its thirty-ninth annual meeting at Young's Hotel, June 7 to 9. A temperance lunch will be served at 1 p. m., Wednesday, June 9, at Young's Hotel. This will be addressed by many eminent physicians, and is an occasion for the gathering of physicians who are interested in the scientific study of the alcoholic problem. A cordial invitation is extended to all. For programs and further particulars, address Dr. T. D. Crothers, Hartford, Conn.

BUREAU OF INFORMATION, REGISTRATION, POSTOFFICE, ETC.

The registration bureau, at which all members should register as soon as they have secured hotel accommodations, is located at the shore end of Young's old pier. Adjoining the registration department is a branch postoffice, as well as telephone and telegraph booths, and bureau of information where one may learn about hotels, transportation, meeting places, entertainments, etc. Occupying the major part of this same pavilion will be the Commercial Exhibit and the Scientific Exhibit, which will receive careful examination from most of the visitors.

ATLANTIC CITY NUMBER

Part of the above announcements are repeated from the Atlantic City Number of THE JOURNAL, May 1, to which readers are referred for further details. That issue contained an illustrated article on Atlantic City and its fame as a watering place. The preliminary programs of the twelve sections were given and much other interesting matter concerning the approaching session.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

SYNONYMS FOR CHLORID OF LIME

To the Editor:—What is the chemical formula of "hypochlorite of lime"? I found this term in the article "A Case of Poisoning from the Bite of a Rattlesnake," by Charles S. White (THE JOURNAL, May 8, 1909, liii, 1486), which states (p. 1844) that "the best chemical antidote is 2 per cent. solution of the hypochlorite of lime." G. H. PINEGIN, M.D., Yonkers, N. Y.

ANSWER.—"Hypochlorite of lime" and "chlorid of lime" are terms often applied to the official chlorinated lime. Chlorinated lime is a mixture consisting essentially of calcium chlorid—$CaCl_2$—and calcium hypochlorite—$Ca(OCl)_2$—in molecular proportions. Besides these constituents, chlorinated lime also contains calcium hydroxid, calcium carbonate as well as some other calcium salts.

ACID NITROUS ETHER MAY EFFERVESCE WITH POTASSIUM ACETATE

To the Editor:—I should like information as to what occurs in the following prescription:

℞

Potassii acetatis (vel citratis)	125
Spt. ætheris nitrosi	15
Aquæ q. s. ad	125

M.

After mixing, a marked ebullition takes place, which is somewhat retarded if glycerin is added. What gas is generated? If it is ethyl nitrite why is that combination prescribed? O. P.

ANSWER.—A neutral potassium acetate or potassium citrate and neutral spirits of nitrous ether, when dissolved in water, should not cause effervescence. Spirit of nitrous ether is liable to be of acid reaction, while potassium acetate and potassium citrate may contain small amounts of carbonate. Under these conditions, when mixed, effervescence will of course occur and carbon dioxid gas will be generated. The addition of glycerin does not prevent, but may slightly retard, the reaction. No decomposition of the medicinal ingredients takes place. It should be remembered, however, that ethyl nitrite, while fairly permanent when dissolved in alcohol (spirits of nitrous ether), is decomposed (hydrolyzed) rather readily by water. The above mixture therefore decomposes gradually when kept.

BILLROTH'S ANESTHESIA SOLUTION

To the Editor:—Will you kindly publish in your Queries and Minor Notes department the formula of Billroth's solution for anesthesia? E. B. QUILLER, Wilmington, N. C.

ANSWER.—Billroth's A. C. E. mixture consists of chloroform 3 parts and ether and alcohol 1 part each.

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ended May 22, 1909:

Truby, A. E., major, ordered to accompany Company A, Eng., to Washington Barracks, D. C., and then return to San Francisco.

Winter, Francis A., major, granted leave of absence for 1 month, about July 1.

Baker, David, major, granted leave of absence for 2 months.

Reasoner, M. A., 1st lieut., granted leave of absence for 24 days; relieved from duty at Fort Caswell, N. C., and ordered to Vancouver Barracks, Wash., for duty.

Stuckey, H. W., 1st lieut., M. R. C., relieved from duty in the Philippines Division and ordered to sail August 15 from Manila, P. I., for San Francisco.

Stallman, G. P., 1st lieut., M. R. C., ordered from San Francisco to Fort Douglas, Utah, for duty.

Park, Roswell, 1st lieut., M. R. C., ordered to active duty May 26 to June 1; will repair to Washington and deliver the address to the graduating class of the Army Medical School, May 29.

Hull, A. R., M. R. C., granted leave of absence to May 31.

McLeod, H. C., 1st lieut. M. R. C., relieved from duty in Philippines Division; will proceed on first available transport to San Francisco.

Craig, E. J., D. S., left Fort Leavenworth, Kans., and arrived at Fort Omaha, Nebr., for duty.

Ryan, E. P. R., D. S., left Fort Leavenworth, Kans., and arrived at Fort Robinson, Nebr., for duty.

Mills, R. H., D. S., ordered to proceed from Monticello, Fla., to Fort Adams, R. I., for duty.

Laflamme, F. L. K., D. S., ordered to proceed from Rumford, Me., to Fort Thomas, Ky., for temporary duty, and, on completion, to Fort Sheridan, Ill., for duty.

Waddell, R. W., D. S., contract annulled at his own request.
Hussey, S. W., D. S., contract annulled at his own request.
Tignor, E. P., D. S., relieved from temporary duty at Fort Monroe, Va., and further duty at Fort Adams, R. I.; will proceed to Fort Slocum, N. Y., for duty.
Carpenter, Alden, D. S., relieved from temporary duty at Fort Slocum, N. Y., and ordered to return to his proper station, Fort Hancock, N. J.
Whinnery, J. C., D. S., left Fort Liscum, Alaska, and arrived at Fort William H. Seward, Alaska, for duty.

Navy Changes

Changes in the Medical Corps, U. S. Navy, for the week ended May 22, 1909:

Huntington, E. O., surgeon, detached from the Naval Station, San Juan, P. R., and ordered to the Naval Medical School Hospital, Washington, D. C., for treatment.
Cecil, A. B., and Walton, D. C., acting asst.-surgeons, appointed acting asst.-surgeons from May 12, 1909.
Bucher, W. H., surgeon, ordered to report to the president of the Naval Retiring Board at the Navy Yard, Mare Island, Cal., May 31, for examination by the board and thence to treatment at the Naval Hospital, Mare Island, Cal., until further orders.
Fiske, C. N., P. A. surgeon, detached from the Navy Yard, Washington, D. C., and ordered to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.
Hart, S. D., acting asst.-surgeon, ordered to duty at the Naval Hospital, New York.
Leach, P., medical inspector, commissioned medical inspector, with rank of commander, from April 1, 1909.
Payne, J. H., P. A. surgeon, detached from the *Salem* and directed to wait orders.
Zalesky, W. J., P. A. surgeon, detached from the Naval Station, New Orleans, and ordered to the *Salem*.
Ryder, C. E., P. A. surgeon, detached from the *Vermont* and ordered to the Massachusetts nautical training ship *Newport*.

Public Health and Marine-Hospital Service

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service, for the seven days ended May 19, 1909:

White, J. H., surgeon, detailed to represent the service at the annual meeting of the American Medical Association, to be held in Atlantic City, N. J., June 8-11, 1909.
Rosenau, Milton J., surgeon, granted 2 months' leave of absence from April 8, 1909, on account of sickness.
Ramus, Carl, P. A. surgeon, granted 1 day's leave of absence, May 11, 1909, on account of sickness.
Miranda, Rafael U. L., acting asst.-surgeon, granted 1 month's leave of absence from June 1, 1909, and 3 months' leave of absence, without pay, from July 1, 1909.
Small, Edward M., acting asst.-surgeon, granted 10 days' leave of absence from May 19, 1909.

PROMOTIONS

Gardner, Charles H., Blue, Rupert, Oakley, James H., and Sprague, Ezra K., P. A. surgeons, commissioned surgeons, to rank as such from May 1, 1909.

CASUALTY

Wightman, William M., P. A. surgeon, died from yellow fever in Guayaquil, Ecuador, May 16, 1909.

RESIGNATION

Watters, M. H., pharmacist, resigned, to take effect May 13, 1909.

BOARDS CONVENED

Board of medical officers convened to meet at the Marine Hospital, Boston, May 14, 1909, for the purpose of making a physical examination of an applicant for appointment as cadet in the Revenue-Cutter Service. Detail for the board: Surgeon L. L. Williams, chairman; P. A. Surgeon T. W. Salmon, recorder.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 21, 1909:

SMALLPOX—UNITED STATES

California: Sacramento, May 1-8, 5.
Illinois: Alton, April 1-30, 2 cases; Danville, May 2-9, 15 cases; Chicago, May 1-8, 1 case; Galesburg, 1 case; Peoria, April 1-30, 44 cases; Springfield, April 30-May 7, 3 cases.
Indiana: Indianapolis, May 2-9, 1 case; South Bend, May 1-8, 1 case.
Iowa: Council Bluffs: May 3-10, 1 case.
Kansas: Kansas City, May 1-8, 3 cases; Wichita, 2 cases.
Kentucky: Lexington, May 1-8, 1 case; Newport, 2 cases.
Michigan: Saginaw, May 1-8, 7 cases.
Minnesota: Duluth, April 30-May 6, 2 cases.
Missouri: Kansas City, April 17-May 8, 10 cases; St. Joseph, March 27-April 3, 1 case; St. Louis, May 1-8, 1 case.
Montana: Butte, April 20-May 4, 7 cases; Great Falls, April 24-May 1, 1 case.
New Jersey: Camden, May 1-8, 2 cases; Trenton, 1 death.
New York: Little Falls, April 24-May 8, 2 cases.
Ohio: Ashtabula, April 17-May 8, 2 cases; Cincinnati, April 30-May 6, 9 cases; Columbus, May 1-8, 1 case.
Tennessee: Nashville, May 1-8, 1 case.
Virginia: Richmond, April 30-May 1, 1 case.
Washington: Spokane, April 30-May 1, 4 cases.
Wisconsin: La Crosse, May 1-8, 1 case.

SMALLPOX—INSULAR

Philippine Islands: Manila, March 27-April 3, 3 cases, 1 death.

SMALLPOX—FOREIGN

Canada: Halifax, April 24-May 1, 1 case; Yarmouth, May 1-8, 1 case.
Ceylon: Colombo, Feb. 13-March 27, 37 cases, 8 deaths.
China: Amoy, March 27-April 3, present; Canton, March 20-27, 20 cases.
Egypt: Cairo, March 25-April 8, 28 cases, 10 deaths.
Gibraltar: March 26-May 2, 1 case.
India: Bombay, April 6-13, 15 deaths; Calcutta, March 26-April 3, 281 deaths; Rangoon, 14 deaths.
Italy: General, April 18-25, 9 cases; Naples, 13 cases, 1 death.
Java: Batavia, March 20-April 3, 7 cases, 2 deaths.
Manchuria: Dalny, April 3-10, 5 cases, 1 death.
Mexico: Chihuahua, April 18-May 2, 4 cases; Monterey, April 25-May 2, 16 deaths.
Russia: Batoom, March 1-31, 2 cases; Moscow, April 10-17, 28 cases, 13 deaths; Odessa, April 3-17, 23 cases, 2 deaths; Riga, April 18-21, 2 cases; St. Petersburg, March 27-April 10, 46 cases, 11 deaths; Warsaw, Feb. 13-20, 2 deaths.
Siam: Bangkok, Feb. 1-28, 111 cases, 72 deaths.
Spain: Barcelona, April 19-26, 5 deaths; Valencia, April 17-24, 10 cases.
Straits Settlements: Singapore, March 20-27, 1 death.

YELLOW FEVER

Barbados: April 25-May 1, 4 cases.
Brazil: Para, April 10-17, 6 cases, 6 deaths.
Ecuador: Guayaquil, March 20-April 3, 72 cases, 34 deaths.

CHOLERA—INSULAR

Philippine Islands: Provinces, March 25-April 3, 177 cases, 82 deaths.

CHOLERA

India: Bombay, April 6-13, 97 deaths; Calcutta, March 26-April 3, 129 deaths; Rangoon, 8 deaths.
Russia: St. Petersburg, April 22-28, 12 cases, 1 death.

PLAGUE

Arabia: Mascat, April 14, 1 case, 1 death, imported.
Australia: New Castle, March 1-31, 1 case, imported; Sydney, March 6-12, 4 cases, 1 imported.
Chile: Antofagasta, April 7, 10 cases; Iquique, April 8, 17 cases.
China: Amoy, March 27-April 3, present; Chang Chew, epidemic.
Ecuador: Babohoyo, March 20-27, 2 cases; Guayaquil, March 20-April 3, 34 cases, 12 deaths.
India: Bombay, April 6-13, 370 deaths; Calcutta, March 27-April 3, 94 deaths; Rangoon, 29 deaths.
Japan: Kobe, April 3-17, 2 cases; Formosa, March 27-April 10, 123 cases, 99 deaths.
Peru: General, April 10-17, 29 cases, 19 deaths; Callao, 4 cases, 3 deaths; Lima, 10 cases, 4 deaths.

Marriages

R. C. BOWMAN, M.D., to Miss Blanche Smith, both of Philadelphia, May 12.

LEROY H. SAXE, M.D., to Miss Estelle S. Gerhart, both of Telford, Pa., April 28.

CHARLES N. ALLISON, M.D., Canton, Ill., to Miss Fern Barnes of Paulding, Ohio, May 1.

MARY L. D. BICKINGS, M.D., to Harold Thornton, both of Philadelphia, Pa., April 30.

WILLIAM W. LEWIS, M.D., St. Paul, Minn., to Miss Barbara Haug of Duluth, March 22.

ANDREW COLIN GILLIS, M.D., Baltimore, to Miss Bertha Fischer, at Baltimore, May 4.

REU A. HAND, M.D., Camden, N. J., to Miss Elizabeth Hughes Blattner of Cape May, N. J., May 11.

CORDY N. PATE, M.D., Fort Smith, Ark., to Miss Ione Gayden of Winona, Miss., May 7.

DON C. HUGHES, M.D., Findlay, Ohio, to Mrs. Laura Lingenfelter, at Chicago, April 20.

VIRGINIUS DABNEY, M.D., to Miss Ada Louise Newlands, both of Washington, D. C., May 18.

WILLIAM H. STRENG, M.D., Spring Grove, Ill., to Miss Ada Richardson of Richmond, Ill., recently.

EDGAR S. MCILVAIN, M.D., Manila, P. I., to Miss Saidee Dougherty of Nashville, Tenn., May 12.

WALTER BAER WEIDLER, M.D., Lancaster, Pa., to Miss Grace Langley at New York City, April 20.

DWIGHT GORDON SMITH, M.D., Washington, D. C., to Miss Emily Griffin Reid, at Washington, May 11.

C. S. FLOYD, M.D., Loganville, Ga., to Miss Birdie Scott of Norwood, Ga., at Stone Mountain, Ga., May 6.

STANFORD K. WINSOR, M.D., Anand, British India, to Miss Bessie Marie Carroll of Chicago, May 11.

WILLIAM THEOPHILUS CHAPMAN, M.D., Uniontown, Pa., to Miss Wilbia May Newson of Monessen, Pa., May 12.

Deaths

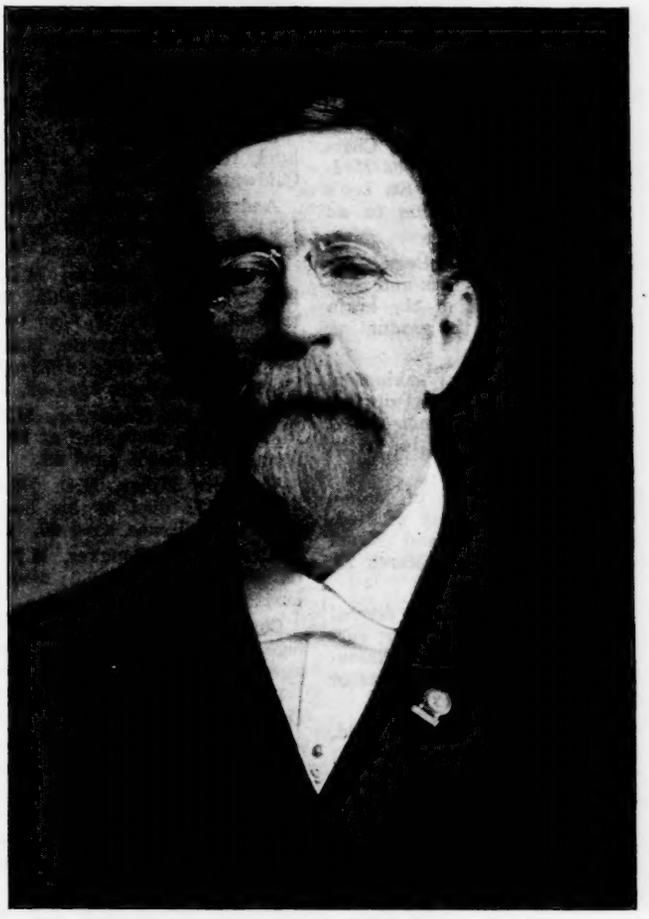
Thomas J. Happel, M.D.

Dr. Thomas J. Happel, one of the most earnest, faithful and efficient members of the American Medical Association, died at his home in Trenton, Tenn., May 24, from brain tumor, after a protracted illness, aged 62.

He was born in Greensboro, Alabama, Jan. 24, 1847. Enlisted as a boy as a soldier in the Confederate Service; he was taken prisoner in 1864, and imprisoned in Mobile until the close of the Civil War.

He was graduated from the medical department of the University of Virginia, Charlottesville, in 1871, and in the following year from New York University.

He was a member of the American Medical Association for many years, vice-president in 1897, a member of the Board of Trustees from 1898 until the time of his death and chairman of the board from 1901 to 1908. Those who were present at the meeting of the Association in Denver in 1898 will remember the splendid record he made as presiding officer on that occasion when the notable discussion of the rules of ethics took place.



THOMAS J. HAPPEL, M.D., 1847—1909

He served as president of the Tennessee State Medical Association, of the Gibson County Medical Association, the Tri-State Medical Association of Tennessee, Arkansas and Mississippi, and West Tennessee Medical and Surgical Association. He was health officer of Gibson County for sixteen years, and president of the Trenton board of health for twenty-eight years and secretary and treasurer of the State Board of Medical Examiners since its organization in 1889, and during this time compiled and issued the state directory, which stands as a monument to his painstaking labor. He also served as vice-president of the Association of Southern Railway Surgeons, and the National Association for the Study and Prevention of Tuberculosis. He was for many years local surgeon of the Mobile and Ohio Railroad, and a member of the local board of pension examining surgeons.

For a number of years he had been a member of the Board of Aldermen of Trenton, and to him is given the credit of the high position that city holds in regard to paving, light, and water supply, as well as low taxation.

Dr. Happel was always in the forefront of all work for the good of the community in which he lived, and the profession which he honored. He was known throughout the state and the South, and was universally beloved. He was one of the most esteemed and most conscientious members of the Board of Trustees of the American Medical Association and was always ready to give freely of his counsel and his time for the upbuilding of the Association. Those who have had the pleasure of being associated with him will not soon lose the inspiration of this noble life.

William Martin Wightman, M.D. Cooper Medical College, San Francisco, 1899; a member of the American Medical Association; who entered the Public Health and Marine-Hospital Service, in 1902, a year later was made assistant surgeon, and in 1908 was promoted to the grade of passed assistant surgeon; one of the ablest of the younger officers of the service; died from yellow fever, May 16, at his station in Guayaquil, Ecuador, where he had been sent to observe and take measures for preventing the spread of yellow fever, aged 33.

William L. Steele, M.D. Medical College of the State of South Carolina, Charleston, 1857; formerly president of the Association of Montana Pioneers; for one term sheriff, for ten years coroner, and for two terms treasurer of Lewis and Clark county, Mont.; for four years state senator; for one term alderman, and for three terms mayor of Helena; died at his home in Helena, May 16, from cerebral hemorrhage, aged 76.

Isaac Francis Galloupe, M.D. Harvard Medical College, Boston, 1849; a member of the Massachusetts Medical Society; surgeon of the Seventeenth Massachusetts Volunteer Infantry and later brigade and division surgeon and medical director of the Eighteenth Army Corps during the Civil War; and a prisoner in Libby Prison, Richmond, Va.; formerly city physician and a member of the board of U. S. pension examining surgeons and of the school board of Lynn, Mass.; died at his home, May 17, from paralysis, aged 85.

Charles M. Thompson, M.D. College of Physicians and Surgeons, Chicago, 1883; a member of the Michigan State Medical Society; a member of the first village council and at one time health officer of Elk Rapids, Mich.; died at his home from aneurism of the aorta, May 10, aged 44.

Charles Bates Tower, M.D. Harvard Medical School, Boston, 1881; died at his home in Cambridge, Mass., May 14, aged 66.

William R. Bird, M.D. College of Physicians and Surgeons, Baltimore, 1880; a member of the Medical Society of the State of Pennsylvania; died at his home in Chester, May 13, from pneumonia, aged 51. At a special meeting of the Delaware County Medical Society, a committee was appointed to prepare and present suitable resolutions regarding the death of Dr. Bird.

Gerardus Hilles Wynkoop, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the Medical Society of the State of New York, consulting surgeon to the Northern Dispensary, New York City; visiting surgeon to St. Luke's and the Roosevelt hospitals; died at his home May 16, from peritonitis, three days after an operation for appendicitis, aged 65.

C. Helge Browall, M.D. University of Stockholm, Sweden, 1895; local surgeon at Ada, Okla., for the Oklahoma Central Railroad; president of the local health board, and city physician of Ada; died in the St. Vincent de Paul Sanitarium, Sherman, Texas, May 14, from septicemia, due to an operation wound, aged 38.

Rachel S. Skidelsky, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1894; a member of the Medical Society of the State of Pennsylvania and prominent as a philanthropist; physician to the Home for Jewish Girls, Philadelphia; died at her home in that city, May 13, from pneumonia, aged 53.

Salvatore Gomez, M.D. Long Island College Hospital, 1891; formerly acting assistant surgeon P. H. and M.-H. Service at Gibara, Cuba; for eight years port physician at Sastia, and since May head physician of the Spanish-American Iron Company's Hospital; died in that institution, May 16, aged 47.

Charles E. Witbeck, M.D. Albany (N. Y.) Medical College, 1866; a member of the American Medical Association; president of the staff of the Cohoes, N. Y., Hospital; for many years health officer and member of the board of health of Cohoes; died at his home, May 13, from nephritis, aged 65.

John Eberle Payton, M.D. Willamette University, Salem, Ore., 1877; a member of the American Medical Association; a member of the Board of Health and a prominent practitioner and citizen of Redlands, Cal.; died from tuberculosis, at the Pottenger Sanatorium, Monrovia, Cal., May 10, aged 51.

George W. Fisher, M.D. Georgetown University, Washington, D. C., 1870; a veteran of the Civil War; and for several years a clerk in the record and pension division of the War Department, Washington; died May 17, at his home in Anacostia, Washington, D. C., aged 69.

John Grove Speer, M.D. Transylvania University, Lexington, Ky., 1830; for a time probate judge of Macon county, Ill., and a resident of Decatur, and later a practitioner of Floydsburg, Ky.; died at the home of his son in Alton, Ky., from influenza, May 2, aged 100.

Alta Fremont Cook, M.D. University of Michigan, Ann Arbor, 1881; a member of the American Medical Association; acting assistant surgeon P. H. and M.-H. Service; was found dead in his office in Sandusky, Ohio, May 14, from valvular heart disease, aged 58.

John C. Edward Kaiser, M.D. University of Berlin, Germany, 1870; lecturer on histology and embryology at his alma mater in 1874; and professor of anatomy at the Humboldt Academy, Berlin, in 1876; died at his home in Green Bay, Wis., May 17, from heart disease, aged 56.

Joseph Edgar Grimsley, M.D. University of Virginia, Charlottesville, 1883; of Greensboro, N. C.; a member of the Medical Society of the State of North Carolina; died in St. Leo's Hospital, Greensboro, May 15, from septicemia, due to an operation wound, aged 49.

Joseph B. Kinley, M.D. Hahnemann Medical College, Chicago, 1885; dean of the Denver College of Physicians and Surgeons; died suddenly May 13, from concussion of the brain following a fall due to vertigo, at a banquet of the graduating class of the college, aged 49.

William Long, M.D. Georgetown University, Washington, D. C.; chief chemist in the Bureau of Engraving and Printing, Washington; a chemist, linguist, and musician of note; died in the Emergency Hospital, Washington, May 14, from cerebral hemorrhage, aged 50.

Charles Appleton Packard, M.D. Medical School of Maine, Brunswick, 1856; a fellow of the American Academy of Medicine; for 20 years physician to the Military and Naval Orphans' Hospital, Bath, Maine; died at his home, March 23, from arteriosclerosis, aged 80.

Francis Marion Savage, M.D. Louisville, 1870; for several years president of the U. S. board of pension examining surgeons at South McAlester, I. T.; twice postmaster of Hartshorne, Okla.; a veteran of the Civil War; died at his home in Hartshorne, Nov. 8, 1908, aged 76.

Robert H. Seymour, M.D. University of Dublin, Ireland, 1870; a member of the State Medical Association of Texas; and for several years secretary of the Fayette County Medical Society; died at his home in Warrenton, March 26, aged 57.

Durell Shepard, M.D. Yale University, New Haven, 1864; a member of the American Medical Association; acting assistant surgeon in the Army during the Civil War; died at his home in West Haven, Conn., from senile debility, May 16, aged 77.

John S. Lupton, who retired from practice forty-five years ago on account of deafness and was the pioneer fruit grower of the Shenandoah Valley; died at his home in Winchester, Va., Nov. 6, 1908, from paralysis, aged 80.

Joshua Swigert, M.D. Washington University, Baltimore, 1863; formerly of Brazil, Ind.; died in the Cook County Institutions, Dunning, Ill., May 3, from exhaustion, due to chronic morphinism, aged 71.

Samuel G. Statler, M.D. Jefferson Medical College, Philadelphia, 1851; a member of the Medical Society of the State of Pennsylvania; died at his home in Alum Bank, May 13, from senile debility, aged 82.

Asa Walter Jayne, M.D. Homeopathic Medical College, New York City, 1879; of North Tonawanda, N. Y.; coroner of the first Niagara District; died in Buffalo, Nov. 16, 1908, from pneumonia, aged 58.

Arthur C. L. Fox, M.D. McGill University, Montreal, 1898; of Montreal; formerly an oarsman of repute in western Canada; died in the Royal Victoria Hospital, Montreal, March 31, aged 44.

Thomas Hall, M.D. Harvard Medical School, Boston, 1866; of Boston, a member of the Massachusetts Medical Society; died in Chelmsford Center, Mass., May 14, from cerebral embolism, aged 70.

Alfred Knox Middleton, M.D. Louisville, 1851; surgeon in the Confederate Service during the Civil War; died at his home in Arlington, Texas, April 14, 1908, from senile debility, aged 78.

Alfred P. Pierce, M.D. University of Buffalo, N. Y., 1898; a member of the Medical Society of the State of Pennsylvania; died at his home in Bradford, Aug. 15, 1908, from uremia, aged 45.

Sam L. Holcomb, M.D. St. Louis; for many years a practitioner of Pike county, Mo.; died at the home of his brother in Cherokee, Texas, Oct. 17, 1908, from cerebral hemorrhage, aged 73.

John Farquhar McDonald, M.D. Harvard Medical School, Boston, 1868; formerly of Elmsdale and Hopewell, N. S.; died at his home in Shubenacadie, N. S., in November, 1908, aged 71.

Samuel Gager Johnson, M.D. New York University, New York City, 1878; died at his home in Bozrah, Conn., April 3, from influenza and secondary anemia, aged 60.

William Devereaux Kendall, M.D. University of Pennsylvania, Philadelphia, 1858; a Confederate veteran; died at his home in Paris, Tenn., May 8, aged 64.

Bradley Crippen, M.D. Western Reserve University, Cleveland, 1861; a veteran of the Civil War; died at his home in Coldwater, Mich., March 17, aged 64.

Andrew J. Bobbs, M.D. Medical College of Ohio, Cincinnati, 1854; a pioneer practitioner of Marion, Ind.; died at his home in that city, May 13, aged 76.

Margaret Richardson, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1853; died at her home in Norristown, Pa., May 15, aged 91.

Manfred H. McDonald, M.D. Bellevue Hospital Medical College, New York City, 1873; died at his home in Hempstead, N. B., February 28, aged 62.

William S. Moslander, M.D. Hahnemann Medical College, Philadelphia, 1889; died at his home in Camden, N. J., May 12, from tuberculosis, aged 49.

Theodore Miller, M.D. New York University, New York City, 1873; died at his home in Califon, N. J., May 14, from lung disease, aged 60.

Alter Louis Slonaker, M.D. Western Pennsylvania Medical College, Pittsburg, 1889; died at his home in East End, Pittsburg, May 14, aged 46.

Cornelius W. Parker, M.D. Southern Botanico-Medical College, Macon, Ga., 1853; died at his home in Atlanta, May 15, aged 80.

George W. Landis, for many years a practitioner of North Carolina; died at his home in Durham, Sept. 22, 1908, aged 67.

John Hammel, M.D. Kentucky School of Medicine, Louisville, 1880; died at his home in Buckskin, Ind., May 12, aged 54.

David Randall, M.D. St. Louis, 1836; died at his home in Norwalk, Cal., Sept. 18, 1908, from senile debility, aged 98.

James Henry Payne, M.D. New York University, New York City, 1849; died at his home in Boston, May 14, aged 85.

Book Notices

THERAPEUTICS OF THE CIRCULATION. Eight Lectures Delivered in the Spring of 1905 in the Physiologic Laboratory of the University of London. By Lauder Brunton, Kt., M.D., D.Sc., LL.D. (Edin.), LL.D. (Aberd.), F.R.C.P., F.R.S., Consulting Physician to St. Bartholomew's Hospital. Cloth. Pp. 280, with illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

These lectures, delivered in 1905, have been revised by the author. The reader who expects to find only a treatise on therapeutics of the circulation will be disappointed because 108 of the 280 pages in the book are devoted to physiology and the instruments by which this subject can be studied in the laboratory and clinic. This portion of the book is written in Brunton's usual style, and is full of his own observations and interpretations of facts. Lectures 4 and 5 discuss the therapeutics of various heart diseases and conditions. The two succeeding chapters describe the physiologic and therapeutic action of such drugs as digitalis, adrenalin, strychnin, caffein, amyl nitrite, isobutyl nitrite, hydroxylamin, nitrogly-

cerin, nitroerythrin, nitromannite, tobacco, aconite, general and local bleeding, diet and regimen, Nauheim and Oertal treatments, exercise, etc. Several appendices and full indexes follow these lectures. This book is full of the interest which Brunton's personality gives to all his writings. It also possesses the defect of most lectures, in that many topics are too briefly considered and others too much in detail. The book is attractive and copiously illustrated.

TUBERCULOSIS OF THE NOSE AND THROAT. By Lorenzo B. Lockard, M.D., Laryngologist and Rhinologist to the Jewish Consumptives' Relief Society Sanatorium. Cloth. Pp. 368, with illustrations. Price, $5. St. Louis: C. V. Mosby Co., 1909.

Dr. Lockard reviews the entire subject of tuberculosis of the larynx, pharynx and nose. He begins with a digest of the history of the subject, follows this with well-selected statistics, and then enters into clinical details and treatment. Throughout the treatise he shows thorough familiarity with the literature, as well as extensive personal experience. His own experience leads him to take definite position regarding many questions under discussion. This makes the book a satisfactory one for clinical reference. Notwithstanding its bulk, the work contains neither unnecessary repetitions nor padding; it can be recommended to any one interested in the subject. Its therapeutic teaching is judicious and conservative, though often rather optimistic—the optimism being justified, no doubt, by the climatic advantages of Dr. Lockard's practice. It is to be regretted, perhaps, that he takes so reserved a position toward all forms of tuberculin treatment, even though this treatment has not yet been successfully applied to tuberculous diseases of the throat. The influence of tuberculin treatment on tuberculosis in other parts of the body has been so often demonstrated that laryngologists can not afford to be indifferent to it. The numerous laryngoscopic illustrations may be somewhat criticized from an artistic point of view, but for clinical purposes they are good and useful.

OPERATIVE MIDWIFERY. By J. M. Munro Kerr, M.B., C.M., Glas., Fellow of the Faculty of Physicians and Surgeons, Glasgow. Cloth. Pp. 705, with illustrations. Price, $6.00. New York: William Wood & Co., 1908.

This work deals mainly with the abnormal part of obstetrics, and in this respect at least in the English language, stands alone. Dr. Kerr dwells at length on causes of dystocia, and attempts to impress the necessity of an early, careful, scientific examination of every pregnant woman. These chapters abound in most excellent advice, and can be read frequently with profit. While Dr. Kerr is not dogmatic, still he has some set ideas which do not appeal to us on this side of the water. For instance, he is enthusiastic over the symphyseotomy operation; says that he can see no reason to abandon it, and presents statistics which really give him ground for such an opinion. Pubiotomy, he says, will not displace it, or at least he is willing to wait until the pubiotomy craze is over and we can draw a calm dispassionate conclusion of its merits. We in America have never had a high opinion of the operation of symphyseotomy, and, as he says, most of the criticism has come from those who have never performed it. He admits that there are no fast rules to be followed in every case, and says that one is not long in obstetrical practice without finding out that Nature in parturition, although generally following a certain course, refuses to be trammeled by hard and fast rules. It is for the accoucheur to bear in mind, however, Nature's limits. The mistake is often made of forgetting these limits and of interfering with Nature in cases in which a little patience would render such interference unnecessary.

Diagnosis, examination by external palpation and auscultation and contracted pelvis are considered more fully than is usual. Dr. Kerr has little faith in instrumental measurement of the internal pelvis, and relies principally on the hand and on the judgment which comes from experience. Radiography, in estimating the size of the pelvis, or relation of the head to the pelvis, has not proved of value in his hands. He advises prophylactic cephalic version in breech cases in the last week or two of pregnancy, a treatment which has many warm advocates, but which seems to be open to criticism. The 294 illustrations are mostly original and highly instructive.

THE HERTER LECTURES (NEW YORK, 1908) ON THE FLUIDS OF THE BODY. By Ernest H. Starling, M.D., F.R.C.P., F.R.S., Jodrell Professor of Physiology in the University College, London. Cloth. Pp. 186, with illustrations. Price, $2. Chicago: W. T. Keener & Co., 1909.

This book contains eight lectures given all but one under the Herter foundation at the Bellevue Hospital and University Medical School in 1908. The subjects discussed are the physical properties of protoplasm, the osmotic relationships of cells, the intake of fluid, the exchange of fluids in the body and the production of lymph, the absorption of the interstitial fluids, the output of fluid, the fluid balance of the body, and the causation of dropsy. The presentation is interesting. Dr. Starling speaks his own views, which no doubt will stimulate discussion among workers in this field. To physicians who desire to follow the growth of knowledge of the physicochemical processes in the body, the book is recommended most heartily as sure to be read with interest and profit.

THE PROBLEM OF AGE, GROWTH AND DEATH. A Study of Cytomorphosis Based on Lectures at the Lowell Institute, March, 1907. By Charles S. Minot, LL.D., D.Sc., James Stillman Professor of Comparative Anatomy in the Harvard Medical School. Cloth. Pp. 280, with illustrations. Price, $2.50. New York: G. P. Putnam's Sons, 1908.

In this volume the distinguished author summarizes the results of his scientific work on the problem of age, growth and death. It appears that for twenty-five years and more this problem has occupied his scientific interest. Desire to get at actual facts led to a long and comprehensive series of observations on the growth of certain animals in order to secure vantage ground for attack on the changes affected by age, changes that have been studied but little in a systematic way. Says Dr. Minot: "Age causes many progressive changes in the organism, but none which are more obvious and more accessible to exact study than those of growth." Most of the very valuable observations on growth as a function of age were made on guinea-pigs, the growth being measured by weight.

The book itself is divided in six chapters, the subjects being the condition of old age, cytomorphosis, the cellular changes of age, the rate of growth, differentiation and rejuvenation, regeneration and death, and the four laws of age.

The four laws of age, which in a way constitute the conclusions, are: First, rejuvenation depends on an increase of the nuclei; second, senescence depends on the increase of the protoplasm, and on the differentiation of the cells; third, the rate of growth depends on the degree of senescence; fourth, senescence is at its maximum in the very young stages, and the rate of senescence diminishes with age.

Dr. Minot carefully refrains from any suggestions as to the actual causes of the increase in the amount of protoplasm that characterizes senescence, confining himself entirely to morphologic considerations.

The book constitutes an important contribution to general biology. The presentation is excellent, the style clear and lucid.

THE THEORY OF IONS. A Consideration of Its Place in Biology and Therapeutics. By William Tibbles, M.D. (Hon. Causâ), Chicago, LL.D., L.R.C.P.E., M.R.C.S., L.S.A., etc. Cloth. Pp. 131. Price, $1. New York: Rebman & Co., 1909.

Dr. Tibbles attempts to account for all biologic processes on the basis of ionization. As practically all chemical reactions are between ions, and as all biologic processes are directly or indirectly the result of chemical reactions, the proposition would seem to be self-evident. The reader will find a brief semi-popular discussion of the principles of the ion theory, but the logic of much of Dr. Tibbles' theorization is difficult to follow. His facts seem to have been obtained from standard authorities and therefore are reliable.

MILITARY HYGIENE. By R. H. Firth, Lieut.-Colonel Royal Army Medical Corps. Cloth. Pp. 299. Price, $1.40. Philadelphia: P. Blakiston's Son & Co., 1908.

This is a brief, succinct and practical manual of sanitation for soldiers, in which Colonel Firth takes up the causes of disease; the preventable diseases; principles of disease prevention; the recruit; physical training of the soldier; the barrack; water supply, food, clothing and equipment; the work of the soldier, the march, and the camp.

HOW TO NURSE SICK CHILDREN. By Charles West, M.D., Founder of and Late Physician to the Hospital for Sick Children., Great Ormond Street. With a Preface by George F. Still, M.D., Physician to Out-Patients, The Hospital for Sick Children. New Edition. Cloth. Pp. 52. Price, 40 cents. New York: Longmans, Green & Co., 1908.

While this book contains little that is likely to interest the physician, it should prove of value to mothers and nurses. It contains much practical advice and common sense, especially on points generally omitted from ordinary text-books of nursing. Emphasis is laid on the importance of truthfulness in dealing with children.

LEHMANN'S MEDIZINISCHE HANDATLANTEN. BAND XVII/I. Atlas und Grundriss der gerichtlichen Medizin, unter Benutzung von E. v. Hofmann's Atlas der gerichtlichen Medizin. Herausgegeben von Dr. Georg Puppe, Professor der gerichtlichen Medizin in Königsberg i. P. Mit 70 vielfarbigen Tafeln und 204 schwarzen Abbildungen. Parts I and II. Price, $5.00 per set. München: J. F. Lehmann's Verlag, 1908.

This work of about 700 pages appears in the form of two rather small volumes. It deals with the autopsy findings in death from any cause which may have a legal or forensic bearing and these findings are not only clearly described, but excellently illustrated in black and white and in colors. In addition to this methods of identification of both the living and the dead are described, together with the German laws governing the making of autopsies for medicolegal purposes and the giving of expert testimony and of certificates or opinions by medical men. The work contains much that is of value to physicians in general as well as to those who are especially engaged in medicolegal work.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 8-11.

American Academy of Medicine, Atlantic City, June 5-7.
Am. Assn. of Genito-Urinary Surgeons, Pocona, Pa., May 31-June 1.
Am. Assn. of Med. Milk Commissions, Atlantic City, June 7.
Am. Climatological Association, Fortress Monroe, Va., June 4-5.
American Dermatological Association, Philadelphia, June 3-5.
Am. Gastro-Enterological Association, Atlantic City, June 7-8.
American Laryngological Association, Boston, May 31-June 2.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 3-5.
American Medico-Psychological Assoc., Atlantic City, June 1-4.
American Orthopedic Association, Hartford, Conn., June 14-16.
American Proctologic Society, Atlantic City, June 7-8.
American Surgical Association, Philadelphia, June 1-3.
American Urological Association, Atlantic City, June 7.
Con. of State and Prov. Bds. of No. Am., Washington, June 4-5.
Maine Medical Association, Portland, June 16-17.
Massachusetts Medical Society, Boston, June 15-16.
Natl. Con. State Med. Ex. and Licensing Bds., Atlantic City, June 7.
New Jersey Medical Society, Cape May, June 23-25.
Rhode Island Medical Society, Providence, June 1.
Wisconsin State Medical Society, Madison, June 30-July 2.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-fourth Annual Meeting, held at Washington, D. C., May 11-12, 1909

The President, DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., in the Chair

Officers Elected

The list of officers elected appeared in THE JOURNAL, May 22, page 1675.

The President's Address: The Physical Basis of Life

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The living cell is made up of active labile molecules, and these molecules consist of numerous atoms, and each atom contains a large group of electrons; atoms and electrons are in ceaseless, rhythmic motion, while groups of atoms are being constantly cast off of the molecule and replaced by new groups split off from matter outside the molecule. Metabolism, the one characteristic phenomenon of living matter, involves intramolecular change; consequently, the molecule and not the cell is the unit of life. Life is function and not form, and, moreover, it is a molecular function. In multicellular animals, such as man, we have colonies, or groups of cells, or organs, bound together. Each kind of cell has its own peculiar molecular composition, and through these living molecules the work of the organ is accomplished. We have heard much of late concerning the influence of mind on the body, and many who speak on this subject seem to assume that there is some entity, called mind, that controls the body, to which it is superior, and apart from which it may exist. This dualistic doctrine is as old as the philosophy of Plato; it always has been and remains to-day a dogma without scientific support, and as a hypothesis it has led to the discovery of no scientific fact. Every attempt to apply it to the treatment of disease has led to the development of conscious or unconscious charlatanism, and has resulted in more or less marked atavism. The term functional disease is now being used by those who know but little concerning the functions of the body in either normal or abnormal states. It seems to be inferred or assumed by those using this expression that a mysterious power has been given to some to set the mechanism of the disordered body aright. In truth, we have no evidence of the existence of a functional disease as thus understood. We may not always be able to find where the basic fault lies, but shall we for this reason stop looking for it, shut our eyes, give over our search and ask some individual quite ignorant of the body and its functions to undertake the task of inducing harmonious activities?

Three Cases of Amaurotic Family Idiocy with an Anatomic Study of One: A Preliminary Report

DRS. HARLOW BROOKS and HENRY WANDLESS, New York: This is a rare disease, affecting several members of the same family, and characterized by distinct lack of mental development, by a progressive weakness of all the muscles of the body, and by a defect in vision. It is generally fatal, the children dying as a rule in a condition of complete marasmus before the end of the second year of life. The pathology of the disease has been chiefly studied by ophthalmologists and neurologists. In the region of the macula lutea a whitish spot appears, in the center of which a cherry red point is seen. In the encephalon and throughout the entire spinal cord very extreme grades of ganglion cell degeneration are shown. The general consensus of opinion is that the degeneration is an aplastic one, a failure to progress and consequently a cell deterioration. Another theory is that the disease is toxic in origin. In the case subjected to special study, besides the changes usually found in cases of amaurotic family idiocy, we have found marked and more or less characteristic alterations in the thymus body and in the adrenal and pituitary glands. These lesions are of such nature as strongly to suggest long-standing atypical functional activity. With our certain knowledge of the dependency for proper growth and function of the central nervous tissues on the normal activity of these bodies, it seems justifiable to assume a possible causal relationship in this condition, though it is quite possible that these lesions in the ductless glands are merely concomitant or associated ones.

DISCUSSION

DR. B. SACHS, New York: I am not yet willing to go to the length Dr. Brooks has gone regarding the cause of the disease, although his findings in this case are extremely interesting. I will say, in justification of others who have examined these cases, that the attempt has been made to examine every single organ of the body, and no changes have been found in the adrenals, thymus or pituitary gland. I think the proper view to take of the disease is that in these children the defect in the nervous system is such that the highest nerve elements are only equipped for a certain and a very limited function. In other words, that they are so started in life that they can only perform their function properly for a number of months and then give out, and, in consequence of this, undergo degeneration. I can not conceive that any family disease should be due to toxic causes and nothing else.

Visceral Angioneuroses

DR. S. SOLIS COHEN, Philadelphia: I have made previous communications on the subject of vasomotor ataxia (1892-1894-1896-1898). The condition is by no means rare, and is marked in certain families, especially in those exhibiting her-

editary tendency to disorders of metabolism, gout, diabetes, etc. It exists in some persons without causing any inconvenience. When, however, disease of any kind or from any cause arises in such persons, their constitutional peculiarities modify the symptomatology. An incautious observer, or one who does not recognize the significance of the vasomotor phenomena, may easily be led astray. This is especially the case in maladies attended with hemorrhage—whether slight or profuse—with cardiac disturbance, with headache, with painful crises or with serous discharges. The dependence of certain asthmatic paroxysms on what may be termed bronchial urticaria was emphasized in my previous communications and was well known before. Less familiar are the angioneurotic edemas of the base of the tongue and of the larynx, which cause suffocative paroxysms and may threaten death. Still rarer in literature and in practice is the recognition of angioneurotic conditions of the gastroenteric tract, the liver and the kidney. Certain utero-ovarian symptoms may by analogy be ascribed to similar processes, and there is no reason for excluding any viscus or tissue supplied with vessels. Considerable doubt and difficulty arises when cerebral symptoms are manifested. I have seen two cases in which operations for appendicitis were done because of painful abdominal crises of angioneurotic origin, and normal appendices were found. Evidence from morbid anatomy supporting the diagnosis of visceral angioneurosis is, from the nature of the process, practically unattainable; except negatively in the rare instances of surgery and the still rarer instances which can be followed throughout life and after death. Organic disease or deformity may coexist with angioneurotic disorder, as exemplified by one of my cases in which malposition of the kidney was responsible for some of the symptoms, and these, together with general nutrition, were relieved by successful operation. Furthermore, it is my conviction, from cases observed over prolonged periods, that actual disease of the vessels (angiosclerosis) may eventually be set up, pseudoangina, for example, becoming veritable angina. A number of cases were seen in which Graves' syndrome developed under observation, from a basis of slight vasomotor ataxia, and one in which an incomplete Raynaud's syndrome similarly developed. A notable case is one which began with uremic symptoms, including suppression, and in which the patient exhibits no evidence of nephritis but has passed through and recovered from the full syndrome.

DISCUSSION

DR. WILLIAM OSLER, Oxford, England: Largely through Dr. Cohen's stimulation we have of late years gained a good deal of information regarding these angioneurotic edemas. The group which is associated with skin lesions is most important to us practically, because undoubtedly the same lesions may occur in the abdominal organs, particularly the stomach and intestines, with severe symptoms, as vomiting, nausea, pain, and all the features of a severe attack of colic. Such features may occur owing to changes in the walls of the stomach or intestines the exact counterpart of those changes which occur in the skin. Surgeons know this. They have operated in a number of cases, supposing the patient had appendicitis, and the localized edema in the stomach and intestines has been seen—an edema which is exactly like angioneurotic edema. This is a very interesting group of cases which may or may not be associated with skin lesions. There are cases in children undoubtedly in which these features have occurred for years and years before any skin lesion has occurred. I saw only a few months ago a case that was about to go to operation for supposed gallstones, and fortunately just a little before my visit there came out a crop of urticaria and one characteristic patch of angioneurotic edema. Of course the patient was not operated on. It turned out that from childhood the patient had had attacks of colic, some of which had been associated with these cutaneous outbreaks. Another group that we may recognize is that which is associated with arteriosclerosis and spasm of the vessels of the abdomen. I think these cases that we call angina abdominis, cases with symptoms like angina pectoris, in all probability are due to spasm of the visceral vessels.

(To be continued)

AMERICAN THERAPEUTIC SOCIETY

Tenth Annual Meeting, held at New Haven, Conn., May 6-8, 1909

The President, DR. FREDERIC H. GERRISH, Portland, Maine, in the Chair

The address of welcome was delivered by Arthur T. Hadley, LL.D., president of Yale University, and the response by Dr. Thomas E. Satterthwaite, New York.

The report of the standing committee on therapeutic research, which was read by the secretary of the committee, Dr. H. C. Wood, Jr., Philadelphia, was on "The Quality of Fluidextract of Ergot at Present on the Market."

The obituary of Dr. Robert Reyburn, president of the society, 1906 to 1907, written by Dr. H. H. Barker, was read by the secretary, Dr. Noble P. Barnes, Washington, D. C.

Officers Elected

The officers elected were given in THE JOURNAL, May 15, p. 1591.

President's Address: The Therapeutic Value of Hypnotic Suggestion

DR. F. H. GERRISH, Portland, Maine: This subject has been surrounded with much entirely unnecessary mystery, and there has been a great deal of confusion in regard to it, not only among the public at large, but also in the minds of physicians. There can be no doubt, however, that it has a legitimate field in medicine, and when I was in general practice I made use of it for many years, with satisfactory results in a number of cases. The methods of applying this mode of treatment can be easily acquired, and it is a mistaken notion that it requires any special qualifications on the part of the operator for its successful employment.

The Standardization of Materia Medica Products

DR. F. E. STEWART, Germantown, Pa.: This subject embraces a much wider scope than is usually realized. It is impossible to carry out any systematic plan of standardization without considering the matter from the broadest possible point of view, and I believe that the present conditions call for the establishment of a strong central committee, board of control or bureau of materia medica (call it what you will), representative in character, which should have as its functions the cooperative classification and standardization of the newer materia medica, the censorship of advertising, the promotion of professional and commercial interests, and the protection of the public from dishonest commercial exploitation.

SYMPOSIUM ON DIABETES

Experience with Oatmeal in Diabetes

DR. ALFRED C. CROFTON, Chicago: v. Noorden's adoption of the oatmeal diet treatment was purely empirical, and even up to the present there is no definite knowledge as to the mode of action of this agent. Authorities differ as to its value, but there is now at command considerable evidence that it is more or less useful. I have experimented with it to a considerable extent, and have found that, if cases are properly selected, the employment of the oatmeal diet is attended with fairly good results.

Drugs Useful in the Treatment of Diabetes

DR. D. O. LEECH, Washington, D. C.: While I believe, with many others, that no drug is curative, there are a few which act as palliatives, and in some selected cases control, to a large degree, the output of sugar, render the patient fairly comfortable and prolong his life. Opium and its derivatives, notably codein sulphate, hold first place in the opinion of many practitioners, while many consider alkalies as important as opium.

Other drugs that are worthy of mention are gold and arsenic bromid, especially in combination with tryptic and amyloptic ferments, the salicylates, particularly in the case of children, calcium as a prophylactic against boils and carbuncles, potassium permanganate, potassium iodid and emul-

sions of mixed fats. In cases believed to be due to ptomain poisoning, mercuric chlorid has sometimes been used with good effect. We can expect no beneficial effects from drugs, however, without constant and careful attention to the diet.

Surgical Features Relating to the Effect of Gallstones; and the Question of Operation in the Presence of Diabetes

DR. ROBERT T. MORRIS, New York: There are two special objections to operating on individuals with diabetes: (1) The phagocytes do not properly perform their protective function; (2) repair is not carried on well, because the reparative cells are disabled. The reason for this is on account of the cells being deprived of the water essential to their activity by the hygroscopic action of the sugar in the circulation. It has been observed that when gangrene appears in a case of diabetes which has developed rapidly, the process is likely to go on. On the other hand, in a patient who has had diabetes for years, even if there has not been much reduction in the sugar, we can operate far more boldly. In cases of gallstone disease in which operation is indicated, there comes up the question of comparative danger. Is the greater danger to be apprehended from the operation or from the continuance of the condition without surgical interference? In certain cases the formation of gallstones would appear to precipitate diabetes; and so of other sources of continued irritation. Glycosuria, like cough, is a symptom, not a disease, and in cases in which there is no such evident cause, as the changes accompanying arteriosclerosis, a careful investigation should always be made for the purpose of finding out some possible peripheral cause.

The Treatment of Diabetes as an Infectious Disease

DR. ALFRED KING, Portland, Maine: By using a sterile solution of sodium citrate and chlorid to prevent coagulation, I have obtained active growing culture of the yeast fungus, *Saccharomyces cerevisiæ*, from a single drop of blood taken from the aseptic finger-tip of every diabetic patient I have been able to find in the last two months. The resisting power of the diabetic to this fungus was determined by Wright's method of taking the opsonic index. The examination of sixteen patients showed three things: (1) The existence of innumerable yeast fungi in the blood of each; (2) a disturbed power of resistance to this organism; (3) that the opsonic index registers a fair indication of the general physical condition of each patient. The indications for treatment are to restore the lowered power of resistance, destroy or remove that cause, and prevent, relieve or remove the complications which may arise. The lowered resistance may be removed by the use of vaccines and the careful regulation of the diet. So far, I have been able to study the action of the vaccine treatment in but six cases, and that for less than two months, but the results would appear to be fairly satisfactory. I am aware that I have not proceeded far in my investigation, but hope that I have gone far enough to interest other investigators in the subject.

Discussion on Diabetes

DR. J. BLAKE WHITE, New York: I have seen some surprising results from guaiacol benzoate, as recommended by Piatkowski, and among the effects observed have been increased appetite and improved digestion and assimilation, with perceptible stimulation of the nerve centers.

DR. C. E. DE M. SAJOUS, Philadelphia: Division of the splanchnic, which contains the nerves going to the adrenals, has been shown to affect the sugar in the urine. Now, the adrenals are governed by the sympathetic system, and it would appear that the pituitary body is actually the center for this. I ask, therefore, that investigators shall take the adrenals into consideration, for in this way, it seems to me, we may be able to find out the secret of this disease.

DR. WILLIAM H. PORTER, New York: I have never ventured to carry out the oatmeal treatment, as I have feared that my patients would starve under it.

DR. A. CROFTAN, Chicago: I am entirely in accord with the view that diabetes is apparently due to a variety of different causes. Practically, however, it is a disorder of the carbohydrate metabolism. Too much reliance must not be placed on the supposed efficacy of drugs, as there is no disease so fluctuating in all its manifestations. Dr. King's contribution is new and interesting, but his view of diabetes can not be accepted without further proof.

DR. R. J. MORRIS, New York: I know of no reason why there should not be a dozen causes for irritation of the floor of the fourth ventricle, such as arteriosclerosis, injury or eye-strain. As Dr. Sajous has suggested, all these causes may act by affecting the pituitary body, which he believes controls the sympathetic system.

(To be continued)

LOUISIANA STATE MEDICAL SOCIETY

Thirtieth Annual Meeting, held at New Orleans, May 4-6, 1909

(Continued from page 1687)

The Treatment of Syphilis by Mercurial Inhalations in a Hot Room

DR. S. SCHIRO, New Orleans: The method of treating syphilis by mercurial inhalations, known also as Campailla's method, consists in mercurial fumigation combined with diaphoresis in a small heated room, properly ventilated, and having enough air capacity to allow the patient to breathe comfortably. In the forty-four patients thus treated up to the present time I have always obtained favorable results, and draw the following conclusions:

1. Mercurial inhalations in dry heat yield more rapid, immediate and constant results in treating syphilis, of any stage, than the other methods in use; hence its special indication in severe or impending cases of syphilis.

2. For the same reason of its intensity, this method confers on the syphilitic for a longer period an intermission of apparent recovery, which is a favorable condition, especially in pregnant women, who may with much more probability have a normal delivery, greatly reducing infant mortality.

3. It is preferable for the sake of the comfort of the patients, for it saves the digestive apparatus and is not so troublesome as the inunctions or other methods.

4. It is harmless, except in cases in which it is contraindicated by disorders in the respiratory, circulatory and renal apparatus or by old age of the patient.

5. It does not interfere with the patient's occupation and keeps him out of trouble in eluding social or family criticism.

6. It is the most efficient aid to social prophylaxis, as the syphilitic subjects, under this treatment, quickly become noncontagious, or at least much less dangerous to others.

7. Compared with the various methods in use, this method, as it is practiced to-day in the hot room, meets better the two most important points in dealing with syphilis.

The Hyperacid Stomach

DR. S. K. SIMON, New Orleans: The first hydrochloric acid secreted is neutralized in great part by the alkaline mucus present on the gastric surface. The proteid element of the food takes up the further supply, but there is always a surplus during ordinary digestion accumulating toward the end of the process. This is what causes trouble for the stomach when there is no longer a free supply of mucus present to neutralize it and to prevent irritation of the delicate gastric nerve endings. In a clinical way, therefore, hyperacidity is strictly a relative term; the actual gross percentage of hydrochloric acid in the gastric juice may vary, depending on many factors, but the secretion of each individual gland in the stomach remains constant. The acid *per se* does not cause symptoms, but when these occur there is a relative and appreciable decrease of the mucus coating to the stomach wall. The diet should be bland. Olive oil probably acts by protecting the walls of the stomach and bismuth probably acts in the same way. The drug that has given me most satisfaction in the treatment of this condition is nitrate of silver. I believe we should drop the misleading terms of "hyperchlorhydria" and "hyperacidity," and substitute the name "hyperacid stomach."

Epilepsy and Its Treatment

DR. P. E. ARCHINARD, New Orleans: Early diagnosis is the main anchor of the successful treatment, and that diagnosis rests on a suspicion that all spasmodic affections, be they general or partial, tonic or clonic, accompanied at some stage with the least loss of consciousness, is or may become epilepsy, and must be treated accordingly. This treatment we find in the

judicious employment of the bromids, especially potassium bromid.

The use of bromid in moderation can be continued indefinitely, and is much less hurtful to mental and other developments than the attacks it is given to prevent. Potassium bromid is innocuous and cheaper than any of the others. In a large practice extending over a good many years, and including an unusually large number of epileptics, I have followed the rule of giving this class of patients bromids for months, and in some instances for years, and I have felt at all times gratified at the results. I have never seen any untoward effects.

Substitution of Muscle for Tendo Achilles

DR. A. C. KING, New Orleans: E. D., male, aged 5, while wading in a filthy gutter, stepped on a broken bottle in such a way as completely to sever the right tendo Achilles, about three-quarters of an inch above its insertion into the os calcis. Under thorough aseptic precautions the ends of the divided tendon were united with No. 2 chromic gut, but suppuration followed, resulting in the destruction of about two and a half inches of the tendon. After healing had occurred an incision was made extending from the heel half way up the leg, search was carefully made for a possible fibrous reproduction which might in time give a useful foot. Nothing was found, and all efforts at approximation failed. The gastrocnemius was split on one edge, then a transverse cut was made, thus freeing enough muscle tissue to bridge over the defect. The muscle was turned down in such manner as to fill in the gap, and the lower end was sutured to the heel end of the tendon. The wound was closed without drainage, dressings and plaster were applied with the foot in extension. The final result is all that could be desired.

Appendicostomy, Appendicotomy and Appendix Transplantation

DR. RANDALL HUNT, Shreveport: Patient was a white male, married, aged 38, weight 140 pounds. Four years ago he had an attack of malaria lasting two weeks. A month later symptoms of colitis supervened of a continuous character, except when rectal irrigation was used, and immediately recurring on its abandonment. Examination of the stools showed ameba. He was operated on Feb. 18, 1909. The technic used was that described by C. B. Keetley in the *Lancet*, Jan. 2, 1909. The appendix was opened forty-eight hours after the operation. A catheter was introduced into the cecum daily, and the bowel was washed with two gallons of a warm 1 to 5,000 solution of quinin hydrochlorid. Though the bowel movements varied from four to eight in twenty-four hours prior to operation, irrigation promptly reduced this number to one movement a day. After thirty days' treatment re-examination of the feces still demonstrated the existence of amebas and the strength of the solution was increased to 1 to 1,000. Very few amebas were found, however, and as the patient has made a gain of twelve pounds in body weight it appears perfectly logical to predict a complete recovery in the near future.

OHIO STATE MEDICAL ASSOCIATION

Sixty-fourth Annual Meeting, held at Cincinnati, May 5-7, 1909

(Continued from page 1688)

Treatment of Clubfoot in Infancy

DR. ALBERT H. FREIBERG, Cincinnati: The crux of the problem lies in securing a satisfactory over-correction of the deformity by overcoming the resistance of the soft parts which holds the bones in their abnormal relationship to one another. The technic of retention in this over-corrected position is no longer a moot point, if only the before-mentioned first requisite be attained. I find, however, that there is frequent failure to realize the importance of the third requisite for accomplishing a real and therefore permanent cure, namely, that having over-corrected the deformity, mere retention in the over-corrected position will not bring about a cure, be it ever so long maintained. There must be added the influence of function, of weight-bearing. Since this factor is not available until the tenth or twelfth month, it is unnecessary to maintain over-correction by plaster-of-paris until a period shortly before this. Over-correction can be most easily accomplished in the new-born infant. If we ignore the position of the heel, that is the element of equinus, in the untreated clubfoot, it will be found possible, by gentle and painless manipulation, to bring the forefoot into the axis of the leg, thus overcoming the adducted position of the forefoot. The forefoot and leg are now in a straight line, and can easily be held in this position by means of a simple splint and a roller bandage. It is intended that the splint shall be removed by the mother morning and evening for the purpose of rubbing and bathing, and particularly for manipulation of the foot in the manner of over-correction. Complete correction is then undertaken as close as possible to the beginning of walking. It is now no longer an infantile clubfoot, but is to be managed precisely like the clubfoot of an older child, which I do not discuss in this paper.

The Genesis of the Non-Infectious Chronic Diseases of Middle and Later Life from Early Microbic Infection

DR. J. B. BALLINGER, Bradford: On the basis of a common origin from microbic infection of the intestinal tract and modified by the kind of infection and mode of living chiefly, a class of evolutionary diseases probably exists, many of which produce changes characteristic of old age and organic disabilities which limit individual life. In this class, with others, are lithemia, various forms of rheumatism, arteriosclerosis, some cases of endocarditis, myocarditis, and chronic nephritis, apoplexy and diabetes. That intestinal infections occur early in life, even in infancy, scarcely admits of doubt. Reactions in the form of colic, jaundice, diarrhea and fever, occurring in infants but a few days old sufficiently attest this fact. Once established, infections are often permanent. This statement is not only supported by clinical facts, but has lately been strengthened by the discovery of bacillus-carriers. A degree of immunity to some bacteria evidently becomes established, but that their influence on the organism entirely disappears therewith admits of serious doubt. Disease and death are the measure of the victory of the microbic and parasitic forces of disorganization in their persistent warfare against an individual life, but it is especially when early in life an intestinal invasion has been followed by a permanent colitis and constipation, and the alimentary canal thereby converted into a bacterial culture tube, that the development of disease becomes rapid and a well-defined clinical history apparent. These fundamental principles of etiology give increased scope and definite aim to preventive medicine, and add hopefulness of further mitigation of disease and increase of longevity as the reward of continued efforts at therapeutics and sanitation.

Mind and Medicine

DR. J. S. RARDIN, Portsmouth: As the result of renewed activity recently in the field of psychic therapeutics we hear of various cults, such as christian science, the new thought, mental culture, and more recently the Emmanuel movement, and we are led to believe that the psychic factor in treatment has been neglected by the profession. It is in nervous disorders that mental treatment has its most valuable field of usefulness—the neuroses, psychasthenia, neurasthenia, hysteria, melancholia, hypochondria, mania, etc. The trend of modern civilization is to an increase of nervous disorders. Rapid transit, fierce competition in business, supremacy of great corporations, manipulation of intricate machinery, intense artificial light, all engross the nervous system, impairing its stability. Alcoholic drinks play an important part in causing nervousness, and venereal diseases and heredity are also important factors in the increase of nervous disorders. Suggestion is the basis of psychic treatment. The patient must be re-educated and the disordered mind directed in health channels. Suggestion acts through the conscious mind on the unconscious. Every dose of medicine given is more or less a suggestion, and sometimes the more valuable part of the dose.

The placebo is just as legitimate and at times more effective than potent remedies for it inspires hope and contentment of mind, without which the unconscious functions do not act properly. In the absolute confidence of the patient we hold the key to successful treatment, and without that confidence medicine loses much of its potency. Persuasion should be used and autosuggestion practiced. The tendency of the modern cults is to combine religion and medicine. I think we should be very careful of such an alliance. Tactful words of counsel and prayer will often soothe a nervous, wakeful patient into sweetest sleep.

Choked Disc, with Special Reference to Decompressing Trephining

DR. A. R. BAKER, Cleveland: Every patient with choked disc, syphilitic or otherwise, should first be treated vigorously with iodin or mercury. If not responding favorably, the question of operative interference must be seriously considered to prevent blindness. Among operative measures to be pursued are: (a) Incision of optic nerve sheath; (b) lumbar puncture; (c) decompressing operation.

Etiology of Senile Cataract

DR. CHARLES LUKENS, Toledo: The essential cause of senile cataract is disturbed nutrition of the crystalline lens. The function of the capsule is a protecting and regulating one. The nutrition of the lens is obtained by osmosis from surrounding media. If these media become so modified by certain toxins, exudates or altered composition that the lens is no longer able to get proper nutrition, this altered nutrition may produce opacity. Chorioiditis is the result of prolonged asthenopia, which may be from several causes, and probably accounts for more cases of cataract than any other one thing. The cause of many cases is obscure, and no single etiologic factor can account for all.

Report of a Case of Hodgkin's Disease with Recurrent Fever

DR. JOHN PHILLIPS, Cleveland: The patient in the case reported was admitted to Lakeside Hospital because of swelling of cervical glands. Some of the glands were removed and microscopic changes were found described by Reed and Longcope as characteristic of this disease. Under treatment with arsenic, the remaining glands became smaller and smaller and the patient was discharged, only to be readmitted one year later with marked enlargement of glands in the neck and axillæ. Under treatment with arsenic they again nearly disappeared. The patient was admitted again with the enlargement of all the superficial glands and evidences of compression from enlargement of the retroperitoneal group. The unusual condition noted, both in the record and third admission to the hospital, was the alternation periods of pyrexia and apyrexia.

(*To be continued*)

KANSAS MEDICAL SOCIETY

Forty-third Annual Session, held at Emporia, May 5-7, 1909

The council and house of delegates had their first meeting Tuesday, May 4. The financial report showed that the society is on a solid financial basis. The scientific session was opened Wednesday morning at 10 a. m., with an address of welcome by Mayor John H. Glotfelter, of Emporia. A response on behalf of the society was delivered by Dr. O. J. Furst, of Peabody.

President's Address: Tuberculosis

DR. C. C. GODDARD, Leavenworth, spoke of the efforts being made to stamp out this dread disease.

Almost one whole day of the session was devoted to papers and discussions relative to some phase of tuberculosis.

Changes in Councilor Districts and By-Laws

On Friday, May 7, the house of delegates reconvened. Several amendments to the constitution and by-laws were offered. One provided for the election of twelve councilors instead of eight as the constitution now provides. This will lie over one year and be voted on at the next annual meeting.

The by-laws were amended by dividing the state into twelve councilor districts in place of eight, and according to the constitution, as only eight councilors could be elected, four deputy councilors were appointed to serve for one year. The by-laws were also amended that the council and house of delegates could hold their first meeting on the morning of the first day of the session, and further amended that the officers of the society could be elected on the second day of the session.

Election of Officers

The officers elected were mentioned in THE JOURNAL, May 15, p. 1587. Topeka was selected as the next place of meeting.

Attendance and Entertainments

The attendance at this meeting was much larger than that of last year. Everything was done by the local committee of the society for the entertainment and comfort of the visiting physicians and their wives.

On Wednesday evening a smoker was given at the Whitley Opera-House. On Thursday morning an auto ride was given to the various points of interest in the city. A reception by the ladies of Emporia was given to the visiting ladies at the Elks club room on Thursday afternoon. A banquet was given Thursday evening, about three hundred plates being laid.

Contribution to the Carroll Fund

The appeal of the American Medical Association for the relief of the widow of Major Carroll, who lost his life as a result of work done while investigating the cause of yellow fever, was presented to the society and volunteer contributions were made, to the amount of $55.50, which was forwarded to Major M. W. Ireland, to be added to this benefit fund.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Eleventh Annual Meeting, held in Baltimore, May 13-15, 1909

(Concluded from page 1691)

The Specific Chemotherapy of Protozoal Diseases

DR. SIMON FLEXNER, New York, dealt with the new science of experimental therapeutics, *i. e.*, the effects of remedies in diseases artificially produced; its present status and possibilities. Dr. Welch said it was a good omen that the first paper read in the new building should have been one on a scientific subject and by a noted scientist.

The Variations of Nephrotomy Incisions from the Standpoint of Anatomic Study

DR. MAX BROEDEL, of Johns Hopkins Hospital: The key to the mode of operation is the embryology of the kidney. Rotation is the most important of all factors. It begins at the third week of intrauterine life, and usually reaches 100°, sometimes 130°. The position of the kidney determines the blood supply and the type of vascularization. The posterior incision into the organ is applicable in about three-fourths of all cases.

The Bacterial Content of the Feces with Experimental Observations Concerning the Effect of Various Intestinal Antiseptics

DRS. JULIUS FRIEDENWALD and J. FREDERICK LEITZ concluded their paper as follows: 1. Regulation of diet, together with the evacuation of the bowels, is the most effectual method that we have at hand for reducing the excessively high bacterial contents of the intestines. 2. Betanaphthol and bismuth salicylate appear to be our most effectual intestinal antiseptics in normal individuals, while aspirin and ichthalbin effect slight reduction and salol gives no results whatever. 3. The results produced by intestinal antiseptics in patients suffering with gastrointestinal disturbances do not seem to be marked, whereas the best results are obtained by regulation of the diet.

The Early Diagnosis of Brain Tumors

DR. HARVEY CUSHING: Brain tumors are very frequent. They may be removed without general anesthesia, only with

a hypodermic of morphin. The brain and dura being insensible, stimulation with the electric current is very helpful in diagnosis; so is the study of the eye grounds, the ophthalmologist often having the opportunity to make the first diagnosis. Choked disc may produce sudden blindness; it is the most important of the ocular manifestations of tumors. Inversion of color fields is not pathognomonic of hysteria; it occurs frequently in tumors. Syphilitic tumors are not removable by antisyphilitic remedies, but it is well to remember there may be some relief by their use in non-syphilitic tumors. I have operated on 40 or 50 brain tumors. Many cases of brain tumor, especially in hospitals, are mistaken for hysteria, syphilis and insanity.

The Widened Scope of Psychiatry

DR. C. B. FARRAR: There are two reasons for the activity of psychiatry in Baltimore, (1) the Phipps' clinic, (2) the activity of the lunacy commission. Mystery has lingered over this subject to the present. The word *schlenstör* is still used in Germany; diseases of the mind are still diseases of the soul. Yet our mental states are subject only to the laws that apply to the body. The last of the spiritualist physicians died in 1843 and in 1845. The somatic school triumphed with the advent of Griesinger. Psychiatry is neglected in the schools, and by the boards of examiners. In 1901 Germany required examination in it of all candidates. Every physician comes in contact with mental states. There is a classification mania; real classification of mental disturbances is impossible—individualism is essential. There are as many mental diseases as patients. We have to consider the personality of the individual and the acquired symptoms.

Family Epidemic of Acute Trichiniasis

DR. JOSE L. HIRSH: This epidemic came from eating uncooked ham. There is a large popular consumption of uncooked pork and it must be recognized that meat containing trichinæ can be purchased in the markets. The attack occurred in a family of 8, 5 of whom ate the diseased ham and became affected. The ham was purchased January 31 and the disease appeared between February 7 and 12. The symptoms were edema of eyelids, abdominal cramps, nausea and vomiting, constipation, muscular soreness, urticaria, high temperature, eosinophilia constant from 18 to 45 per cent. There were no chills. The urine and stools were negative.

Fagopyrismus (Buckwheat Poisoning)

DR. HARRY LEE SMITH: The affection occurs in animals, but there is no record of it in man. The case here reported was that of a white man in whom the susceptibility was first observed at the age of 9, after eating buckwheat cakes. The symptoms as observed experimentally (application of buckwheat to scarified surface, or internal use) were itching, heat, suffusion of face, conjunctivæ, neck and arms, followed by desquamation, nausea, sense of tightness in chest, rapid pulse, giddiness, labored action of heart. The immediate cause of the symptoms is unknown.

Incised Wounds of Liver: Report of Case Complicated by Evisceration

DR. ALEXIUS MCGLANNAN: Such wounds are uncommon, and their mortality is high. The chief danger is hemorrhage, and the most important treatment is to check it. Best results are attained when operation is done within six hours. The patient in this case was a white man who had a saw wound of the abdomen. The stomach and colon protruded and there was severe shock. There was an incised wound extending across the abdomen seven inches. The ribs were divided and a wound in the liver was exposed; the epigastric vessels were ligated and the liver wound closed with overlapping catgut sutures just tight enough to control bleeding. Recovery followed.

Gynecology and Obstetrics in General Practice

DR. L. A. GRIFFITH spoke from the standpoint of the country physician. He laid particular stress on three points: (1) Asepsis in labor; (2) early recognition of cancer of the uterus; (3) the importance of a better class of midwives.

DR. J. J. CARROLL added the importance of attention to the eyes of the new-born. There were 29.2 per cent. of admission of cases due to ophthalmia neonatorum at the hospital for the blind. Of these, 76.8 per cent. of the mothers were attended by midwives and the remainder by physicians, showing that not midwives alone are to blame.

Life History of Uterine Myomata

DR. THOMAS S. CULLEN: The cause of uterine myomata is still in doubt; there is no relation to the blood vessels. Position is important. There may be only pressure, but, if the myoma impinges on the mucosa, there will be hemorrhage. Torsion (in subperitoneal form) and suppuration are occasional complications. The blood supply may be derived from the omentum or bladder, or the myoma may be entirely free. It may accompany carcinoma both of body (25 cases) and cervix (18 cases). Hyaline degeneration is nearly invariable; cystic degeneration is common. Sarcoma and myoma occurred together in seventeen cases. In a large proportion there were symptoms of irritation; many were unaware of its existence. I do not think it necessary to remove myoma in all cases. When there is no discomfort, no trouble, I leave it alone, requiring the patient to report two or three times a year.

Other Papers Read and Apparatus, Etc., Exhibited

"Methods of Skin Transplanting," by Dr. J. S. Davis; "Direct Laryngoscopy" (with exhibition of instruments), by Dr. R. H. Johnston; "Responsibility of Physicians in Campaign Against Tuberculosis," by Dr. John Girawood. Dr. G. Timberlake demonstrated the *Spirochæta pallida* by dark-field illumination, and Dr. Hugh Young exhibited a number of instruments of his own invention for the removal of tumors from the bladder by the help of electric illumination.

Miscellany

Elbert Hubbard's Misstatements on Vaccination

To the Editor:—In December, 1906, Elbert Hubbard took occasion in the "Philistine" to attack the theory and practice of vaccination. I wrote to him commenting on his misstatements, but received no reply; neither did Mr. Hubbard in his journal correct them. In view of the fact that he is still writing articles in opposition to vaccination it may be well that material for refuting his assertions should be put in the hands of those members of the profession who have not paid special attention to the subject, who may nevertheless be called upon to defend vaccination against such attacks.

After two introductory paragraphs, I said:

Let me call your attention to what I regard as the errors in your article.

> 1. "Dr. Jenner made investigation and found that no person who had cowpox had contracted smallpox, or, more properly speaking, he could not discover that any person who had had cowpox ever had smallpox.
>
> "It was also the belief that cross-eyed persons and hunchbacks were immune from smallpox, but Dr. Jenner says nothing about this!"—Elbert Hubbard.

COMMENT. For seventy-five years previous to the discovery of vaccination, people in England willingly had themselves inoculated with smallpox in order that they might secure the advantage of a mild attack and thus protect themselves against a severe attack of "natural smallpox," which almost every one contracted. It was believed that almost every one had to pass through an attack of smallpox in the course of his life, just as at the present time almost every one passes through an attack of measles, and statistics bore out this opinion. Therefore, your subsequent statement—in reference to Jenner's declaring that he had inoculated his cowpox

friends with genuine smallpox—that "it is much more likely that in his excess of zeal, Jenner lied than that he deliberately ran the risk of laying himself open to the charge of committing murder," is an absolutely untrue and unwarranted statement.

2. "Professor Waterhouse, of Harvard University, vaccinated his children, and then to prove his faith took them to a house where there was smallpox. Afterward it was admitted that he (Dr. Waterhouse) only took them into the yard or past the house where the patient lay."—Elbert Hubbard.

COMMENT. I do not know your authority for this statement. The facts are that Dr. Waterhouse after vaccinating his children, sent them into the smallpox hospital, which was under the charge of Dr. Aspinwall, who subsequently inoculated them with smallpox without effect. Apropos of inoculation, Thomas Jefferson, who was so much interested in the subject of vaccination, insisted on inoculation as a subsequent test in persons who were early vaccinated in Virginia.

3. "At the present time out of 1,200 deaths, but one is caused by smallpox. The danger of smallpox is infinitesimal where people pay proper attention to sanitation, but the risks from vaccination are considerable."—Elbert Hubbard.

COMMENT. Before the days of vaccination, smallpox caused on an average one-thirteenth of the total number of deaths in England. The enormous difference between one death in 13 in the prevaccination period and one death in 1,200 at the present time constitutes certainly no argument against vaccination, but a pretty strong one in favor thereof. Improvement in sanitary conditions, while doubtless accountable for some decrease in smallpox, is entirely inadequate to explain the striking decline in the incidence and mortality from this disease.

It was shown before the Royal Commission of Vaccination, and the figures are unchallenged, that during a long period in England in which smallpox declined 72 per cent., the mortality from measles had fallen only 9 per cent. and the death rate from whooping-cough a little more than 1 per cent. The diminution in the mortality from scarlet fever has only become apparent at all within comparatively recent years. You write, "the conditions that breed consumption and typhoid fever are favorable to smallpox." Your statement is untrue. Typhoid fever is caused almost exclusively by polluted water supply, and consumption is favored by conditions which lower the general health, but its transmission can not in any sense be compared with smallpox. Smallpox must be classed with measles, scarlet fever, whooping-cough, etc.—with diseases which are extremely contagious and are apt to be transmitted by the most casual contact with the person suffering therefrom. In other words, smallpox is influenced by personal infection rather than by any definite vices of sanitation.

There is almost a universal susceptibility of persons to smallpox and to measles. In the days before vaccination it was generally agreed that about 5 per cent. of the population was insusceptible to smallpox either through the air or by inoculation. My personal experience has been such that I never have seen an unvaccinated person exposed to smallpox fail to take the disease, with the exception of three infants born in the hospital of mothers suffering from smallpox. In every other case, and the figures would reach hundreds, the exposed person has contracted the disease. On the other hand, I have never seen a recently successfully vaccinated person, or one remotely vaccinated with subsequent revaccinations, fail to be protected in the presence of smallpox. During the years 1901 to 1904 we conducted in small classes 700 students of the different medical colleges in the city through the wards of our hospital. These wards were intensely infected, as at one time there were 304 patients suffering from smallpox. It was required that all students should be revaccinated whether they bore scars or not. Of this entire number but one man contracted the disease and, on examination and interrogation, it was found that he had never been successfully vaccinated and bore no mark on his arm.

In the Muncipal Hospital of Philadelphia, during a period of 34 years, in which time over 9,000 cases of smallpox have been treated, we have not had a physician, a nurse, or an attendant, who had been successfully vaccinated or revaccinated prior to going on duty, contract the disease. Physicians and nurses have no such immunity against other infectious diseases as against smallpox. The deaths from smallpox of medical men (who constitute a class particularly well vaccinated) are 13 per 1,000,000 as against 73 per 1,000,000 of the general population in England. In scarlet fever, on the other hand, against which physicians have no special protection, the figures are reversed; 59 medical men per 1,000,000 die of scarlet fever as against 16 per 1,000,000 of the general population.

4. "Fully one-half of all physicians now know that vaccination is a fallacy. To-day the best doctors decline to be vaccinated."—Elbert Hubbard.

COMMENT. How can you commit yourself in writing to such a statement? Practically all the eminent practicing physicians of this country as well as abroad are in favor of vaccination. Indeed, on no other therapeutic procedure is there such a unanimity of opinion in the profession. I do not know of the head of an infectious disease hospital anywhere in the world who is opposed to vaccination, and these men are the best qualified to form an opinion. There may be a small number of physicians in different communities who are opposed to vaccination. It is impossible, however, that such opposition should rest on proof of the non-efficacy of vaccination as a protection against smallpox.

No one familiar with the subject at the present day makes the claim that a single vaccination protects against smallpox for life, although in Jenner's time this was thought to be the case. It would be too much to expect, for one attack of smallpox does not invariably protect against a second at a later period of life. But what is claimed is that vaccination properly performed and repeated once or twice in the course of a lifetime does give an almost absolute assurance of security against the dread smallpox.

If physicians, nurses, and attendants, who are thoroughly vaccinated, can live in perfect security against this disease though coming into daily contact with cases of smallpox, it should certainly be possible for persons living under more favorable circumstances to secure to themselves a like protection. Smallpox, as you suggest, is a comparatively rare disease at the present time in vaccinated countries. The same, however, is not true of countries in which vaccination is greatly neglected. In these countries smallpox still finds its thousands of victims. According to figures collected by the German Imperial Board of Health, there were 275,502 deaths from smallpox in five years from 1893 to 1898 in the Russian Empire, including Asiatic Russia; in Spain, with a population of ten and one-half millions, there were 23,881 deaths from smallpox during this period. Hungary had 12,241 deaths and Italy and Austria 11,000 deaths each. In Germany, however, where vaccination is well carried out and where the population is five times that of Spain, the total number of deaths from smallpox during the same five years was 287, and these were largely in persons of foreign birth who had not been subjected to the vaccination laws of the country.

There is only one sane ground for opposition to vaccination, and that is, that it is not devoid of some danger. But the danger is so slight in any individual instance that it is almost a negligible quantity. No human act is completely unattended with risk. Railroad travel, attendance at the theater, the taking of an anesthetic, etc., all necessitate the taking of a slight risk. Certain it is that there is no reason why we should not be willing to take a minimal risk to secure protection against a disease which was, until the introduction of vaccination, a devastating plague. I do not deny that accidents and injuries, chiefly wound infections, occasionally complicate vaccination, but nearly the whole of these are preventable when the fullest precautions are taken in the propagation and preservation of the lymph, the operation itself, and the care of the arm after vaccination. In the conclusions of the Royal Commission on Vaccination the following is stated: "It is to be hoped that our report will stimulate belief in the efficacy of vaccination, that it will remove some

misapprehension, and reassure some who take an exaggerated view of the risk connected with the operation, as well as lead to a more ready enforcement of the law by local authorities."

I am sending you under separate cover several pamphlets which I trust you will read. Furthermore, if you are sufficiently interested in this matter, I would advise that you read the conclusions of the Royal Commission on Vaccination, a committee composed of eminent men appointed by Queen Victoria.

JAY F. SCHAMBERG, Philadelphia.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

DELAWARE: Dover and Wilmington, June 15-17. Sec., Dr. Henry W. Briggs, Wilmington.

FLORIDA ECLECTIC: DeFuniak Springs, June 10. Sec., Dr. Hiram J. Hampton, Tampa.

ILLINOIS: Coliseum Annex, Chicago, June 16-18. Sec., Dr. J. A. Egan, Springfield.

IOWA: Des Moines, June 1-3 and June 22-24; Iowa City, June 8-10. Sec., Dr. Louis A. Thomas, Des Moines.

KANSAS: Kansas City, June 10. Sec., Dr. R. A. Light, Chanute.

MARYLAND: Baltimore, June 15-18. Sec., Dr. J. M. Scott, Hagerstown. Homeopathic: Baltimore, June 15-17. Sec., Dr. Joseph S. Garrison, 848 W. North Ave.

MICHIGAN: Ann Arbor, June 8. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 15. Sec., Dr. W. S. Fullerton, St. Paul.

NEW HAMPSHIRE: Concord, June 29-30. Regent, Mr. H. C. Morrison.

NEW JERSEY: State House, Trenton, June 15-16. Sec., Dr. J. W. Bennett, Long Branch.

NEW YORK: Albany, June 22-25. Chief of Examinations Division, Mr. Charles F. Wheelock, Albany.

NORTH CAROLINA: Asheville, June 9. Sec., Dr. B. K. Hays, Oxford.

OHIO: Columbus, June 8-10. Sec., Dr. George H. Matson, State House, Columbus.

PENNSYLVANIA: Philadelphia and Pittsburg, June 22-25. Sec., Nathan C. Schaeffer, Harrisburg.

SOUTH CAROLINA: Columbia, June 8-10. Sec., Dr. H. H. Wyman, Aiken.

TEXAS: Cleburne, June 22-24. Sec., Dr. M. E. Daniel, Honey Grove.

VIRGINIA: Richmond, June 22-25. Sec., Dr. R. S. Martin, Stuart.

WYOMING: Laramie, June 23-25. Sec., Dr. S. B. Miller.

Florida Committee on Medical Education Report

At the session of the Florida Medical Association, held at Pensacola, April 7-9, the following report of the Committee on Medical Education was read by the chairman, Dr. Edward N. Liell:

The intelligent treatment of diseases requires training and experience on the part of the practitioner of medicine. A man is of value to the world, in his profession, only when his ability is such that he contributes something over and above the amount represented by his fees.

The time is at hand when it must be insisted on that the man licensed to practice medicine shall be first of all well-educated; and that he shall have been thoroughly grounded in the fundamental sciences on which all medical practice depends.

Low educational standards have heretofore been not only an injustice to the public but demoralizing to the profession. The public has been slow to appreciate the fact that its interests and its safety lay in good standards of medical education. It has even been hostile at times to the reforms which the representatives of the leading medical societies have endeavored to bring about. This attitude of the public makes the practice of medicine the easiest field for the charlatan and the quack to enter.

High standards should be enforced in professional education. There should be not only legal regulation of medical licensing, but expert scrutiny of medical education and in the admission to practice.

Finally, in raising the standard of medical education, influence should be brought to bear towards securing a proper standardization of our medical schools and a just and equitable system of examining boards for the issuance of licenses to practice.

Louisiana Committee on Education Report

The Committee on Medical Education of the Louisiana State Medical Society, of which Dr. L. G. LeBeuf is chairman, presented an extended report at the annual meeting of the society at New Orleans, May 4 to 6, 1909.

The growth and the standing of Tulane University Medical Department are dwelt on in the report and statistics given comparing this with other medical schools. The new buildings which, at a cost of $275,110, have been erected and the great improvement of the teaching staff are alluded to. A new surgical and gynecological department to Charity Hospital, the Delgado Memorial with 120 beds, adds to the clinical facilities of the school. The average cost of teaching each student is shown to be $175.44, while each student contributes but $139.75, leaving a net cost of $35.69 for teaching each student which must be met from other sources. This school is highly commended by the committee for the progress made, but is urged to extend its course to include thirty weeks of actual work each year, excluding holidays and examination week.

In regard to Flint Medical College, while that college is commended for the adoption of higher standards and statistics are given showing its successes and failures at state board examinations, it is also stated that the college was working against dreadful odds, with little endowment, with practically no clinical advantages and with a most modest laboratory equipment. Under these circumstances the committee was unable to understand how the school could do as well as it was doing. Allusion was also made to the wild search for students by colored medical schools whereby students which failed at Flint were taken without condition at other colleges.

The committee suggests that instead of the several smaller colored schools now struggling against insurmountable odds, some one or two central locations should be selected where prejudice is not so extreme and all means and energy be concentrated in building up one or two large well-equipped universities which, with ampler means, could obtain sufficient hospital advantages and better laboratory equipment. Medical education for colored students could then not only comply with the letter of the law but also with the requirements of modern medicine. Negro education should be encouraged in medicine as the 9,000,000 negroes of the South have a right to have physicians of their own race treat them if they so desire. But they also have the right to expect that such physicians shall have had a thorough training in high-grade medical colleges.

Connecticut Homeopathic March Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, March 9, 1909. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 2, both of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
New York Homeopathic Medical College.	(1899) 84;	(1906)	87

Medical Economics

Business Partnerships in the Medical Profession

The Chicago Physicians' Club, at its March meeting, held a symposium on business partnerships in the medical profession, three speakers taking the lead in the discussion, their subjects being "The Advantages of Business Cooperation and Business Partnerships;" "Division of Fees from the Surgeon's Standpoint," and the "Equitable Arrangement of Fees from the Physician's Standpoint."

Dr. Casey A. Wood, discussing the business partnership with special reference to office cooperation, advocated a combination of physicians devoting their time and energy to various specialties and forming a distinct business partnership. He attributed the rarity of such an arrangement to conservatism on the part of physicians and pointed out the fact that this kind of an arrangement is common in the legal profession. One probable obstacle in the way of such an arrangement was a lack of confidence in each other on the part of physicians, not so far as skill is concerned, but with reference to business relations.

There was nothing inherent in the study and practice of medicine that rationally explains this unnecessary and harmful distrust of each other that sometimes characterizes the members of the medical profession. The remedy lay in multiplied opportunities for better knowledge, both social and professional, of each other. Business partnerships in large centers and in small towns would greatly benefit not only the profession, but also the public, as it would increase mutual cooperation and give the public better service.

The material advantages of such partnerships, he said, were larger and better equipped offices and waiting rooms, common laboratories and libraries and better general equipment. The most obvious combination of this sort would be two internists, a general surgeon and a representative of each of the ordinary specialties. Another arrangement, which often works well, was an association of eye, ear, nose and throat specialists. The rapidly growing field of each of these departments was making it increasingly difficult for one man to cover all of them adequately. Another advantage was that many routine but necessary examinations could be made by assistants, thus saving time both to the physician and to the patient. Well-equipped laboratories and adequate libraries were easily obtained where half a dozen or more men were working together; properly equipped operating rooms, as well as competent bookkeepers, office attendants, assistants, etc., were also possible. Another advantage was the opportunity offered to each individual member of such a firm to take needed vacations and absences from work for the purpose of further study without feeling that his practice was being neglected. Any member of such a business association should have the advantage of the advice of another member at any time without extra charge to the patient, because the fee paid by the patient should give him the advantage of all the equipment, human or otherwise, in the entire office, and the charges should be sufficient to cover such a contingency in order to forestall any unfavorable criticism. The question of the division of profits should be left entirely to the members forming the partnership.

Dr. J. F. Percy, Galesburg, considered the much discussed question of division of fees. He said that the trouble with the fee-splitting proposition was that most of us were not sure when it departed from the fundamental principles of clean ethics, and that ethics of some sort were and always would be necessary to the human, civilized family. The larger part of the medical profession was opposed to such division. Those in favor of it were either willing to give or to take. Those willing to take were generally either young physicians unaware of the wrong they were committing and anxious to make as much as possible, or older practitioners who were willing to accept a part of the fee of the more successful money-getting member of the profession as a reward for collecting cases for him. Those who give were young men who wish to get the work of the specialist at the lowest possible price or specialists who had been in practice for years and whose business was not increasing. The origin of the fee-splitting custom was interesting.

Dr. Percy said that twenty-five years ago there were few surgeons and they were all in the large cities. All had immense personal followings, not only in the city, but for hundreds of miles around. These men trained assistants who went into practice for themselves and began to look for work. In order to get cases from the older men some of these younger men offered commissions to the general practitioners. After they got as much business as they wanted or could do they stopped paying commissions.

This practice, Dr. Percy thought, had been kept up by the ever-increasing number of young men who had been internes or assistants to surgeons in the city hospitals, who, seeing no chances for any returns from surgery in the city, are trying to establish themselves in the smaller towns and cities. This practice was also encouraged by so-called postgraduate schools, which gave courses in surgery and other special lines of practice. The graduates of these schools wished to acquire the position and income of specialists without devoting the time necessary to build up a clientele legitimately.

Medicolegal

Each Act by which One Practitioner Personates Another is a Separate Crime

The First Appellate Division of the Supreme Court of New York holds, in the case of People vs. Dudenhausen, that under Section 153 of the public health law of New York, which provides that "any person who shall practice medicine under a false or assumed name, or who shall falsely personate another practitioner of a like or different name, shall be guilty of a felony," each act by which one physician personates another constitutes a separate crime, and the commission of one crime has no relation to or bearing on the other.

As a consequence, the court further holds that when the indictment in this case charged a practicing of medicine with a particular individual on a particular date under a false name it was error to admit evidence of the defendant's relations to two other witnesses, one more than two months prior to the crime charged in the indictment, and one eight days before.

Here, the court says, the defendant was indicted for violating a particular statute, which provided that personating another practicing physician was a crime. To prove the crime it was necessary to prove that the defendant personated another practitioner, and the indictment alleged that that was what he did. To prove that he did practice medicine by prescribing for a person named in the indictment on a particular day named was not a part of a scheme the successful accomplishment of which the defendant was indicted for, but for violating the statute by doing a specific act charged in the indictment, and the intent of the defendant was not an essential element of the crime.

Justice Clarke, however, takes the ground, in a dissenting opinion, concurred in by Justice Scott, that the continued advertisement in the papers, inviting various persons to the same office for medical treatment by the same man, under the same impersonation, furnished a connection between the various occasions which permitted evidence thereof on the ground of a common intent and design; the offense charged being the fraudulent practicing of medicine.

Mental Requirements for Criminal Responsibility

The Court of Criminal Appeals of Texas says, on the appeal of Thomas vs. State, that the following conclusions seem to be supported by all the authorities: First, that the law does not require, as the condition on which criminal responsibility shall follow the commission of crime, the possession of one's faculties in full vigor, or a mind unimpaired by disease or infirmity; second, that the mind may be weakened by disease, or impaired, and yet the accused be criminally responsible for his acts; that he can only discharge himself from responsibility by proving that his intellect was so disordered that he did not know the nature and quality of the act he was doing, and that it was an act he ought not to do.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

May 15

1 *Newer Conceptions of Cardiac Arrhythmias and their Treatment. T. E. Satterthwaite, New York.
2 *Cause of Trembles and Milk Sickness. E. L. Moseley, Sandusky, Ohio.
3 *X*-Ray Diagnosis. H. E. Smith, Norwich, N. Y.
4 Cerebral Hemorrhage Following Arteriosclerotic Granular Nephritis Mistaken for Cerebral Embolism. B. Stow, New York.
5 The Benedict Method of Quantitative Estimations of Sugar in the Urine. I. R. Pels, Baltimore.

1. **Cardiac Arrhythmias.**—Satterthwaite quotes Gaskell's division of the functions of heart muscle into five classes: (1) rhythmicity; (2) excitability; (3) contractility; (4) conductivity; (5) tonicity. We have already learned enough from sphygmographic and polygraphic tracings, studied in conjunction with other objective and some subjective signs, to enable us to classify clinically, also, at least five correspond-

ing forms of arrhythmia. He refrains, however, from discussing abnormalities of excitability and tonicity, because we have as yet no clinical criteria for recognizing them. After discussing the neurogenic and myogenic theories and arriving at the conclusion that the influence of the nerves on the heart must be recognized equally well with the power of the muscle fibers among the influences that govern cardiac action, Satterthwaite considers in detail pneumogastric arrhythmia (fundamental or sinus irregularity) and extrasystolic arrhythmia, as disturbances in the first class. No great importance is necessarily to be attached to mere sinus irregularity, because it is simply a variation in rhythmicity within normal bounds and functional in character, depending on a temporarily disturbed condition of the heart, or on an underlying systemic affection, or on temporary disturbance of the function of the nerves. "Extrasystolic arrhythmia" is easily recognized in a polygram as a "premature or dwarf beat" in the radial pulse, followed immediately by an abnormally long pause. It is produced by a stimulus starting in the remains of the primitive cardiac tissue in the auricle, ventricle, or auriculoventricular node, independently of the sinus rhythm. The bigeminal pulse can be produced by extrasystoles, succession of which may produce the trigeminal or quadrigeminal pulses. Extrasystoles occur at all ages and under the most varying conditions both in health and in disease. Coffee and tobacco hearts and gastrointestinal reflexes are extrasystolic arrhythmias. In high temperature they indicate severe toxemia; in convalescence, a weak heart; in pneumonia or rheumatic fever, cardiac complications. The subjective symptoms are: (1) The feel of the extra thud in the chest and neck; or (2) the impression that the heart actually stops during the compensatory pause; (3) often giddiness. An example of disturbed contractility is the pulsus alternans. The astonishing regularity of its appearance should warn the physician that he is dealing with a case of alternating pulse rather than of extrasystole. The rhythm is invariably irregular. When the rate is not markedly increased patients may live for years, but when it is greatly increased, with fluttering in the chest, breathlessness, edema, cyanosis and venous fulness, the prognosis is grave. In affections of conductivity the stimulus for contraction starting in the sinus may be delayed, may not cross or may be blocked in its course through the auricle over the auriculoventricular bridge to the ventricle. This is the cause of the several varieties of heart block. Symptoms of heart block are irregularity and slow ventricular rhythm, with sometimes a sense of weakness or of exertion on dyspnea. Sir William T. Gairdner is said to have suffered from heart block, yet lived to 82. Errors in conductivity are easily made out by polygrams or may be determined by the inharmonious action of the radial or apex and jugular. There are three varieties of this form of arrhythmia, (1) partial, (2) complete, (3) the Adams-Stokes syndrome. Satterthwaite discusses the treatment and urges the importance of a good polygraphic instrument for diagnosis.

2. **Trembles and Milk Sickness.**—Moseley endeavors to show that trembles and milk sickness in animals are due to aluminum phosphate obtained by eating the white snake root or the rayless golden rod. He shows by experiment that the pathologic appearances found in animals poisoned by these plants are indistinguishable from those caused by aluminum phosphate poisoning; further, that watery extracts of the plants do not show aluminum on testing, and are not poisonous to rabbits, while the leached leaves, dried and given to a rabbit, produce the same effect as leaves from which nothing has been extracted. The objection, therefore, that no poisonous effect was produced by the consumption of the gelatinous extract from evaporating the liquid in which the flesh of animals with trembles had been boiled, is not conclusive to the contrary, since the meat itself must be eaten to produce the effect. The meat of animals that have died of trembles will cause trembles in animals that eat it, whether raw or boiled.

Boston Medical and Surgical Journal

May 13

6 *Breast Abscesses. Report of Seven Cases Treated by Bier's Suction Method. R. L. De Normandie, Boston.
7 *Effects of Coffee and Their Remedy. W. Wesselhoeft, Cambridge, Mass.
8 *Coffee as a Beverage, Its Use and Abuse. R. Amory, Boston.
9 Imperforate Anus. L. C. Kingman, Providence, R. I.
10 Intermittent Hydronephrosis. Report of Four Cases (concluded). D. F. Jones, Boston.

6. **Breast Abscesses.**—De Normandie describes the apparatus and method for applying Bier's suction, and reports in detail seven cases of abscess of the breast in which he has used it with excellent results in six cases and failure in one. He discusses each of the cases separately.

7. **Coffee.**—Wesselhoeft discusses the injurious effects of coffee in the light of laboratory investigations, which, he concludes, tend to show that the caffein is the noxious constituent. He describes a preparation which, it is asserted, renders possible the extraction of the caffein from the coffee bean, without at the same time depriving the infusion of its savor and aroma.

8. **Idem.**—Amory says that caffein and tannic acid should be excluded, as far as possible, from the cup of coffee, in order to avoid a deleterious effect, while as much as possible of the volatile oils should be included in it. Coffee should therefore, be taken with food and not fasting. After a full meal or during it, coffee is beneficial to digestion. When brain or muscular stimulation is desired it is better to take caffein, for it can be accurately dosed. Hot or boiling water should be avoided in making coffee, and an infusion should be made with cold water. Amory has for the last eight years prepared his coffee in a porcelain or china vessel with cold water. It does not lose color, strength or aroma for two or three weeks if kept corked and in a cool place. The infusion is prepared in a concentrated form and, before using, water, milk or cream, heated to boiling point is added to set free the volatile oils. He describes the preparation of the cold coffee extract. He particularly objects to the use of metal utensils and hard water which contains salts.

New York Medical Journal

May 15

11 Clefts of the Axis Cylinder, the Cable of the Nervous System. Sir J. Grant, Ottawa, Canada.
12 Ophthalmia Neonatorum and its Prophylaxis from the Standpoint of the Ophthalmologist. C. S. Bull, New York.
13 Preventable Blindness from the Standpoint of the Obstetrician. J. C. Edgar, New York.
14 Ophthalmia Neonatorum. P. A. Morrow, New York.
15 Ophthalmia Neonatorum. F. Krauss, Philadelphia.
16 *The Individual as a Surgical Factor. A. M. Crispin, New York.
17 Deficient Oxidation in Relation to the Etiology, Pathology, and Treatment of Nephritis (to be continued). N. E. Ditman and W. H. Welker, New York.
18 *Deafness Following Febrile Diseases, and Its Prevention. J. A. Pratt, Aurora, Ill.

16. **The Individual as a Surgical Factor.**—Crispin discusses the reciprocal influence of diseases and traumatism produced either accidentally or intentionally. He says that it is a dangerous error to undervalue the constitutional disturbances which underlie many surgical diseases, and a useless nicety to establish a distinction between diatheses and the lesions which they produce; it is a well-known fact that wounds are dangerous in persons who are suffering from certain general diseases, such as diabetes, malaria, syphilis, general intoxications, either from internal or external sources, as those from the intestines, alcoholism, saturnism, etc., all conditions that may eventually cause alterations of the liver, heart or kidneys. Alcoholism has only to be mentioned to evoke that dreaded postoperative sequel, delirium tremens and the general alterations of the organism, for it is a truism that chronic alcoholism profoundly modifies the recuperative process. These morbid conditions have a decided influence on all surgical operations, even before the lesions which they produce become appreciable. He then discusses in detail, in the order which their gravity demands, the constitutional states which have to be corrected or eliminated if possible before attempting any surgical procedure. They are: Renal insufficiency, asthenia, autointoxication, hepatic insufficiency, glycosuria, cardiac insufficiency, anemia, malaria, syphilis and the mental status, particularly with reference to fear. He concludes with an earnest plea for a more extended recognition of the heterogeneity of the individual, and a fuller appreciation of the bear-

ing of the above-mentioned constitutional conditions on the question of operative interference.

18. **Deafness Following Febrile Diseases.**—Pratt summarizes his paper as follows:

1. The majority of ear diseases are caused by adenoids and enlarged tonsils.
2. These conditions are in the greater proportion caused by mechanical obstructions of the Eustachian tube.
3. The germs found in the secretions are present in the normal middle ear as they are in the nasopharynx and sinuses.
4. While varying in different parts of the country, from 25 to 30 per cent., of the children have adenoids or enlarged tonsils.
5. All hypertrophied lymphatic tissues of the nasopharynx should be early and completely removed, so that mechanical obstruction of the Eustachian tube will not occur during congestion of the nasopharynx, to interfere with the drainage and ventilation of the middle ear.

Lancet-Clinic, Cincinnati

May 8

19 *The Non-Preservative Situation. P. W. Greyer, Cincinnati.
20 Uro-Ureter. B. Robinson, Chicago.
21 *New Process for Making New Noses in Twenty Minutes. H. R. Allen, Indianapolis.

May 15

22 Case of Mediastinal Sarcoma, with Special Reference to Differential Diagnosis. R. H. Babcock, Chicago.
23 Use of the Molded Plaster-of-Paris Splints in Fractures. J. E. King, Richmond, Ind.
24 A Question in Therapeutics. B. Horne, Gas City, Ind.
25 Polynasal Catarrh—So-Called La Grippe. H. Hays, New York.

19. **Preservatives.**—Greyer makes a forcible criticism on an address by Dr. R. G. Eccles on "the preservative situation" before the American meat packers' convention. He combats the contention that preservatives are necessary to keep the price of food within reach of the poor, by pointing out that they pay more now for their preserved provisions than they did years ago for non-preserved provisions, and asserts that this increase is due, not to increased cost of production or reasons of supply and demand, but to the machinations of the very men whom Eccles was addressing. The only way in which preservatives lessen the cost of production is by enabling these men to put on the market unfit contaminated products which would be rejected without preservatives. He discusses ptomain poisoning, citing passages from eminent authorities to demonstrate that ptomains are not dangerous in early putrescent stages; that most primary ptomains are destroyed by heat; that in advanced stages of putrescence ptomains are most dangerous; that secondary ptomains produced by age are not destroyed by heat; that especially dangerous ptomains have their origin in the non-putrid flesh of diseased animals; that the formation and poisonous effects of these are not prevented by preservatives; that sterility is not proof of their absence; that cleanliness, freshness and freeness from disease at time of curing or canning effectually prevents ptomains; and that days must elapse on opening a can ere dangerous ptomains can generate in such foods. He insists that water is a greater cause of typhoid than milk is, and that preservatives used in milk to kill all germ life or spores would be more fatal than the disease produced by them.

21. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1536.

Annals of Surgery, Philadelphia

May

26 An Analytic and Statistic Review of 1,000 Cases of Head Injury (continued). C. Phelps, New York.
27 Osteosarcoma of the Mandible. A. Hewson, Philadelphia.
28 *Congenital Mesenteric Cysts. H. C. Deaver, Philadelphia.
29 "Essential Hematuria" and "Nephralgia." A. Schwyzer, St. Paul.
30 *Renal Varix. P. M. Pilcher, Brooklyn.
31 On Renal and Ureteral Calculi. G. Woolsey, New York.
32 *Procidentia Recti: Treatment by Excision. J. H. Cunningham, Boston.
33 *Intestinal Anastomosis by Invagination. A. E. Maylard, Glasgow, Scotland.
34 Excision of the Shoulder Joint. C. L. Scudder and J. D. Barney, Boston.

28. **Congenital Mesenteric Cysts.**—Deaver reports cases of congenital mesenteric cyst and reviews the literature of the subject. He enumerates the four ways of dealing with intramesenteric cysts: (1) by aspiration; (2) by cystostomy and drainage, with or without the use of caustics; (3) by enucleation; and (4) by resection of the involved intestinal segment. The first method is obsolete, the second is useful in the presence of numerous adhesions, the third is ideal when practicable, and the fourth he recommends in multiple juxtaposed cysts when too much surgical interference, as from dealing with cysts one by one, carries more risk than simple resection.

30. **Renal Varix.**—Pilcher considers renal varix a distinct pathologic entity, being an angiomatous disease of the renal papillæ, analogous to varicocele, etc. Many cases of supposed idiopathic hematuria are due to it. It may be impossible to differentiate it before operation from hematuria due to nephritis and renal papilloma. In most cases gross pathologic lesions are not found, but microscopic examination shows angiomatous disease of the papillæ. Renal decapsulation and fixation of the kidney will cure cases of unilateral hematuria due to nephritis. Nephrotomy is the operation of choice, the incision being made along Broedel's line, to avoid injury to arteries. Nephrectomy is indicated only when rapid and bloodless operation is demanded, or when nephrotomy fails to relieve the hematuria.

32. **Procidentia Recti.**—Cunningham describes an operation which he has employed satisfactorily in dealing with prolapse of the rectum in three cases, namely, by excising the mass. He was unable to find a description of the details of procedure, though the operation is recommended, so he publishes his own technic in detail. He summarizes his cases. The results of the operations have been most satisfactory and it is a surprising fact that continence of feces has resulted.

33. **Invaginating Intestinal Anastomosis.**—Maylard describes in detail a simple method of anastomosing one segment of the intestinal canal within another. He illustrates it with a case of excision of the cecum. After removal of the diseased part, the proximal patent end of the ascending colon is stitched up and withdrawn enough to permit a longitudinal incision of sufficient length (determined by the size of the ileum) to be made through the parietes slightly above the occluded end. A large-eyed needle, threaded with a silk suture about 18 inches in length, is carried three or four times across the patent orifice of the ileum, as if to occlude it. The free end of the suture, left long, is passed through the eye of the needle, so that the ileum is now secured as by a sling. The needle is passed into the colon through the previously made incision, and directed up the intestinal canal for about two inches, when it is made to penetrate the bowel wall from within outward. By pulling out the needle and dragging on the sling suture, the ileum—with a little guiding—is drawn through the incisions and made to pass for a short distance along the canal of the colon. While an assistant keeps tension on the sling, the operator begins to fix the ileum to the colon by a series of interrupted Lembert sutures, passed around the circumference of the opening of the colon. The needle is unthreaded; and by pulling one end of the sling suture the other is drawn out of the ileum, the orifice of the latter being thus left free to open out. It only remains for security's sake to tie a ligature around the puncture in the colon through which the needle and suture pass. The immediate advantage claimed for this operation is a lessening of the time of execution with the consequent minimizing of the risks of shock and infection. The after-advantage is the probability that neither occlusion nor contraction will take place at the opening of the colon. Maylard discusses the future fate of the portion of bowel drawn into the canal, and mentions intussusception as a possible untoward result.

American Journal of Medical Sciences, Philadelphia

May

35 *Diagnosis of Gastric Ulcer as Tested by Operation. J. N. Hall, Denver, Colo.
36 Diet in Typhoid Fever. S. Strouse, Baltimore.
37 *Typhoid Bacilluria. K. Connell, New York.
38 *Surgical Treatment of Perforation of Intestines in Typhoid Fever. F. D. Patterson, Philadelphia.
39 *Spasm of Chest Muscles, Particularly the Intercostals, as a Physical Sign of Disease of the Lungs. F. M. Pottenger, Monrovia, Cal.
40 Gastric Digestion in Infants. T. W. Clarke, New York.
41 Syphilis of the Stomach and Intestines. A. D. Kohn, Chicago.
42 The Liver in Tuberculosis. J. T. Ullom, Philadelphia.
43 Ascites in Cirrhosis of Liver Cured by Repeated Tappings. H. S. Patterson, New York.
44 *Adiposis Dolorosa. G. E. Price, Philadelphia.
45 Chemistry of the Urine in Diabetes Mellitus. C. P. Howard, Montreal.
46 Intestinal Obstruction: An Outline for Treatment Based on the Cause of Death. J. W. D. Maury, New York.

35. **Diagnosis of Gastric Ulcer.**—Hall has studied fifty consecutive cases of gastric, pyloric and duodenal ulcer in which the diagnosis was placed beyond all doubt by the findings at operation, expressly to bring out the relative frequency and value of the different symptoms and signs of ulcer. In brief, it was noted that pain (82 per cent.), persistent sour stomach (80 per cent.), tenderness (70 per cent.), vomiting (66 per cent.), and rigidity (60 per cent.), were the most frequent indications of ulcer. Gastric hemorrhage occurred in only 34 per cent. and bloody stools in only 8 per cent. The author's experience confirms that of the Mayos that those patients with the stomach dilated beyond all hope of regaining its motor power, generally fail to improve. There is frequently great dilatation in cases in which on operation the pylorus admits a finger freely so that mechanical obstruction can not be the sole factor. The influence of spasm of the pylorus from the irritation of an ulcer in that region possibly from hyperacidity alone in the causation of such a dilatation is most important. The frequent finding at operation of enlarged lymph nodes should be noted, as well as the chance of error in basing a diagnosis of cancer on their presence with an associated thickening about the pylorus. Hall suggests that we are inclined to look on gastric ulcer as comparatively rarer than it is, that we are too apt to look for a classical history especially of vomiting and hematemesis, with a high acidity reported from the laboratory, and that in consequence of placing too much reliance on the chemical findings and too little on the physical examination we make too many diagnoses of hyperacidity, when the finding, by careful examination of the slightest unilateral rigidity in the epigastric region associated with local tenderness, should lead us to diagnosticate ulcer instead. The chemical evidence is so extremely variable that we should not let it overweigh the more reliable findings of the bedside examination.

37. **Typhoid Bacilluria.**—Connell draws the following conclusions:

1. Typhoid bacilluria is a great menace to public health. Of all excretions containing typhoid bacilli, the most dangerous is the urine of the declining and postfebrile stage of typhoid fever. The feces are a greater public menace during the active stage of the illness, but taking the course of typhoid fever as a whole, the urine is probably the great spreader of this disease. However, in chronic typhoid bacillus-carriers, the bile more frequently than the urine is the medium in which the bacteria have perpetuated themselves.

2. As a routine in every case of typhoid fever, during the decline and convalescence, the urine in the bladder should be rendered inhibitory to the growth of typhoid bacilli. Bacilluria once established should be terminated by urinary antiseptics or by irrigation of the bladder. Obstinate ulcerative cystitis should be treated by surgical drainage. The passed urine of the typhoid fever patient at all stages of the illness should be disinfected with the same care as the feces.

38. Abstracted in THE JOURNAL, Dec. 19, 1908, p. 2182.

39. **Spasm of the Intercostals as a Physical Sign in Lung Disease.**—Pottenger has found rigidity of the chest muscles, particularly the intercostals, a constant sign in patients suffering from pulmonary tuberculosis. Not only has he been able to map out the areas of infection, but he has been able to judge the nature of infiltration with a considerable degree of accuracy by the condition of the muscles, the rigidity being much greater over dense infiltrations than over those of less degree, and greater over recent inflammatory infiltrations than over old quiescent ones. He discusses the explanation which remains doubtful. The intercostal rigidity must not be confused with the feeling of resistance found over non-air-containing organs like the liver and heart. He demonstrates that it is a true muscle spasm not dependent on the thickness of the muscles themselves. The best method of detecting the intercostal rigidity is a systematic palpation of the intercostal spaces beginning at the lowest and comparing the rigidity of space with the one above and also with the corresponding space on the other side. In examining, the fingers should not be placed flat on the chest, but the palpation should be made with the ends of the fingers gently pressed into the intercostal spaces. In advanced cases of pulmonary tuberculosis, he has found that when the tissues break down and form a superficial cavity the resistance formerly noted disappears. This he attributes not to the diminution of rigidity, but to the lack of support previously furnished by infiltrated tissue. He holds that this spasm of the chest muscles, besides being an important diagnostic physical sign in itself, helps to explain other well-recognized signs, such as lagging on the affected side, contraction of the chest wall, ankylosis of the costo-sternal articulation, diminution of the respiratory murmur and the harsh impaired respiratory note. So far, he has been able to detect muscle rigidity above the clavicle and the spine of the scapula, or in the first intercostal space, in every early case he has examined. The rigidity remains for a long time, even over long healed lesions. This he attributes to a fibrous degeneration. He protests against the tendency brought about by the introduction of laboratory methods to neglect physical diagnosis.

44. **Adiposis Dolorosa.**—Price reports two cases that came to autopsy, and discusses the subject in the light of these observations. The disease develops gradually in most cases; occasionally rapidly but never abruptly. The cardinal symptoms are (1) fatty deposit; (2) pain and tenderness on manipulation of the adipose deposits; (3) general asthenia; (4) psychic phenomena. He discusses these separately. He differs with those who disregard alcoholism and syphilis as possible etiologic factors. He summarizes the results of the 6 previously recorded autopsies and the 2 now reported, and finds the thyroid affected in 7 of the 8 cases. The hypophysis also was distinctly affected in 5 cases, and had been unexamined microscopically in at least 2 of the remaining 3 cases. It has been found that in animals when the thyroid is extirpated the pituitary body enlarges. He thinks that sufficient attention has not been given to the hypothesis, and suggests that etiologically it is almost as important as the thyroid. He suggests that the symptom group may result from a primary disease of either of those structures, the other being involved secondarily, though their close interrelations have been noted in other structures, particularly the genital organs. Recovery from adiposis dolorosa is rare, but the disease itself does not directly cause death. Complete intermissions are but remissions and are common. The treatment leaves much to be desired. The salicylates advantageously combined with bromid salts are useful to relieve pain. Aspirin is of value. Extract of the thyroid gland is the most valuable remedy at our command. The pituitary body at present has little value as the results of its use are not known. Potassium iodid is called for with a syphilitic history. The heart may require attention.

American Journal of Physiology, Boston

May

47 *Mercurial Poisoning of Men in a Respiration Chamber. T. M. Carpenter and F. G. Benedict, Boston.
48 Preliminary Observations on Metabolism During Fever. T. M Carpenter and F. G. Benedict, Boston.
49 Variations in Enzyme Concentration with the Variation in the Blood Supply to the Secreting Gland. J. G. Ryan, Chicago.
50 Rheotropism of Fish Blind in One Eye. E. P. Lyon, Woods Hole, Mass.
51 Hydrolysis of Crystallized Albumin from Hen's Eggs. T. B. Osborne, D. B. Jones and C. S. Leavenworth, New Haven, Conn.
52 Effects of Chlorid, Sulphate, Nitrate and Nitrite Radicles of Some Common Bases on the Frog's Heart. F. C. Cook, Washington, D. C.
53 *Quantitative Study of Faradic Stimulation. III. The Measurement of "Make" Shocks. E. G. Martin, Boston.
54 Method of Determining the Position of the Center of Gravity in its Relation to Certain Bony Landmarks in the Erect Position. E. Reynolds and R. W. Lovett.
55 *Absorption of Fat. R. H. Whitehead, Charlottesville, Va.

47. **Mercurial Posoning.**—Carpenter and Benedict, in working with a respiration chamber in which the exit tubes were closed with mercurial valves, observed several instances of poisoning of the men experimented on in the chamber, which they attribute to the toxic action of mercurial vapor. On reference to the literature they find that Bing reports nine cases of poisoning in a hospital, due to the escape of steam through a mercury reduction valve. The patients exhibited a temporary rise of temperature, increase of pulse rate, cyanosis, vomiting and diarrhea. Two of the patients (infants) died, but the others recovered in a few days. Carpenter and Benedict give the record of nine experiments in which symptoms of poisoning were exhibited. The symptoms were usually nausea, increase of pulse rate and respiration, and in most cases rise of temperature. Attempts to demonstrate the

presence of mercury and its effects on animals were inconclusive. Some difference in susceptibility was shown, as some individuals showed no symptoms after a long stay in the respiration chamber.

53. **Faradic Stimulation.**—Martin has worked out a formula for the measurement of "make" shocks, and draws the following deduction: Comparison of the formula for "make" shocks with the one previously established for "break" shocks, shows that the relationship between the two sorts of stimuli depends in any given inductorium altogether on the intensity and voltage of the current through the primary coil. The effects on the relation between "break" and "make" shocks of variations in the intensity and voltage of the primary current may be stated in general terms thus: The higher the voltage of the primary current and the less its intensity, the more nearly will "make" shocks equal "break" shocks; conversely, the lower the voltage of the primary current and the greater its intensity, the more will "break" shocks exceed "make" shocks. With primary currents of high intensity and low voltage large variations in intensity produce relatively slight alterations in the stimulating values of "make" shocks.

55. **Absorption of Fat.**—Whitehead has endeavored to test the question as to whether fat is absorbed in emulsion or in the form of soap, by staining the fat fed to a cat with sudan III. The animal was killed and the intestinal villi and lacteals examined. It was found that while the fat in the lumen of the intestine was colored, that in the villi and lacteals was colorless. The experiment appears to show that fat is absorbed, not in the form of an emulsion, nor in the solutions of fatty acids, but in the form of a soluble soap.

Journal Medical Society of New Jersey, Orange

May

56 Laboratory Work in Physiology in Relation to Medical Practice. H. Emerson, New York.
57 Bacteriologic Notes on Diphtheria. G. T. Welch, Passaic.
58 Modern Urologic Diagnosis. G. N. J. Sommer, Trenton.
59 Recent Advances in Knowledge of Digestive Processes. J. J. Gilbride, Philadelphia.
60 Psychotherapy. C. C. Beling, Newark.
61 Duct Papilloma: Papillary Cystadenoma of the Breast. A. A. Strasser, Arlington.
62 Recurrent Iridocyclitis. C. J. Kipp, Newark.

Ohio State Medical Journal, Columbus

May

63 Factors of Shock and Sepsis in Technic. F. F. Lawrence, Columbus.
64 Treatment of Tuberculous Joint Disease in Childhood. W. G. Stern, Cleveland.
65 Causes of Chronic Urethral Discharge—Urethritis. A. W. Nelson, Cincinnati.
66 Advisability of Operative Interference in Malignant Disease of the Larynx. S. Allen, Cincinnati.
67 Cycloplegia. A. J. Hill, Canton.
68 Rabies, Report of Prophylactic or Pasteur Treatment Taken at Home by Writer. G. W. Rogers, Columbus.
69 The Electro-Magnet in Removal of Iron and Steel Particles from the Eye. V. Ray, Cincinnati.

Bulletin Johns Hopkins Hospital, Baltimore

May

70 Colloid Glands (Goiters): Their Etiology and Physiologic Significance. D. Marine and C. H. Lenhart, Cleveland.
71 Lesions of the Nerve Cell and Vascular Tissues Produced by Acute Experimental Alcoholic Poisoning. H. J. Berkley, Baltimore.
72 *Acquired Venereal Infections in Children. F. Pollack, Baltimore.

72. **Venereal Infections in Children.**—Pollack gives a study of 187 children treated in the women's venereal department of the Johns Hopkins Hospital Dispensary. There were 54 white children of 6 years and under, as compared with 33 colored, and 63 colored over 6 years of age as compared with 33 white. The increase in acquired venereal infections in children is greater than the medical profession or the laity realizes, and the increasing frequency of the criminal infection of baby girls makes the subject a matter of grave concern. Clinically, the venereal infections in children run a milder course as regards grave complications than is the rule in the adult, but the number of complications and the duration of the disease seem almost identical. Pollack insists that the cause of most outrages on children is to be found in the superstition that a person infected with either syphilis or gonorrhea may get rid of it by infecting another, preferably an "untouched virgin;" thus a defenseless child is a most natural victim. She believes that if one were to ask ten police officers, cab drivers, hucksters, etc., of the truth of this superstition, eight would affirm it as a "fact," and all would know of its existence, so common is it. She has been frequently requested to prepare women for maternity with the avowed intention of "having the baby take the disease away from them." She does not credit the majority of this abuse of infants to sexual perversion, for the appalling number of cases seems too large to credit to perverts. She analyzes her cases, discusses the question of temperature in gonorrhea, and the treatment of venereal diseases in children; and, further, urges the necessity of cooperation in prophylaxis with the medical profession of the school board, juvenile courts, police departments, the state attorney's office, and such charitable institutions as the Playground Associations, the Charity Organization Society and Prisoner's Aid societies.

Journal Advanced Therapeutics, New York

May

73 Anterior Poliomyelitis. H. W. Frauenthal, New York.
74 Ideals. F. A. Davis, Boston.
75 Treatment by Superheated Air under Pressure. F. H. Humphris, London, Eng.
76 *Physiologic Effects of Light Energy. H. McIntosh, Boston.

76. **Light Energy.**—McIntosh, from a consideration of recorded experiments and observations, summarizes as follows the physiologic effects of light energy:

Light energy may produce an instant effect on the skin. It increases pigmentation of the skin and the energy of the sweat glands, and produces superficial hyperemia; and, as a determination of blood to the surface of the body can not take place without its withdrawal from the interior, it follows that when large areas of the body are exposed to light energy, there must be a depletion of the viscera. It exerts an inhibitory effect on bacterial growth in living tissue, a conclusion that finds confirmation in its clinical applications. It increases the elimination of carbon dioxid and the activity of the process of combustion, as well as urinary elimination; tends to raise the normal temperature and accelerate pulse and respiration, and to improve metabolism. It may produce motor excitation and reflexes. Colored rays of the spectrum may produce marked physical impressions. Blue light increases the energy and resistance of voluntary muscles, and tends to produce analgesia, frequently passing into anesthesia. The chemical frequencies exert an unfavorable influence on the exanthemata. He concludes his paper with a comparison of the efficiency of the various methods for the therapeutic employment of light energy, viz., solar energy, electric light baths, incandescent baths, concentrated energy of the sun, concentrated energy of the electric light, concentrated incandescent light energy, blue light energy, energy of red light, ultraviolet light energy, vacuum tube discharges and fluorescence.

Journal Nervous and Mental Disease, Lancaster, Pa.

May

77 *Motor Ataxia from Emotion. S. W. Mitchell, Philadelphia.
78 Tumor of the Frontal Subcortex and Callosum, with Flaccid Paralysis of the Muscles which Support the Head, Aphonia, Mental Change, and other Symptoms, Illustrated by a Case with Necropsy. C. K. Mills, Philadelphia.
79 *Optic Neuritis Associated with Disease of the Nasal Accessory Sinuses. S. D. Risley, Philadelphia.
80 *The Symptom-Complex of Central Neuritis. I. H. Coriat, Boston.

77, 79. Abstracted in THE JOURNAL, Feb. 27, 1909, p. 727.

80. **Central Neuritis.**—Coriat summarizes 23 cases of central neuritis in which the symptom-complex of diarrhea, loss of weight, emaciation, muscular rigidity and twitching, with some fever and some changes in the reflexes, was present, 6 times in the alcoholic psychoses, 3 times in melancholia, 5 times in dementia præcox, twice in senile depression, twice in carcinoma of the uterus, 3 times in acute delirium, and once in manic-depressive insanity. He says that since the symptom-complex of central neuritis is purely terminal in nature, occurring as the end-picture of certain cachectic, depressive or delirious states, recovery can not take place. On the other

hand, depressive psychoses with marked emaciation and diarrhea are frequently observed, in which neither clinically nor anatomically, can any central neuritis be demonstrated. What, then, are the conditions necessary for the production of central neuritis? A toxic etiology can easily be dismissed, as the presence of cholin and the findings in the urine are merely secondary. Furthermore, in one of Coriat's cases, a careful examination of the urine, both chemically and physiologically, failed to demonstrate any poisonous products. The change in the nerve cells can not be produced by inanition, for he has seen that under these conditions there is nothing resembling the axonal reaction. The symptom-complex can be fairly satisfactorily explained, however, by an application of Edinger's *Ersatz-Theorie*. For the maintenance of a perfect function of the nerve cell, it is necessary that the reparative power of the cell should be accurately balanced and adjusted. If the cell becomes unable to repair the loss sustained by its functional activity, a progressive degeneration of the entire neurone follows. Mott has also pointed out how in neurones in a low state of nutritional equilibrium degeneration first begins in the fine collaterals and terminals and proceeds back to the cell of origin. Now, in certain psychoses, the loss in weight, the diarrhea and the emaciation reduce the neurones to such a low state of nutrition that they absolutely destroy its reparative power. As a result, the entire neurone degenerates and the peculiar symptom-complex of central neuritis follows.

Albany Medical Annals

May

81 The Rectal Shelf. G. Blumer, New Haven, Conn.
82 *Atrophy of the Testicle. C. G. Cumston, Boston.
83 *The Nervous Child. H. L. K. Shaw, Albany, N. Y.
84 Cyst of the Frontal Sinus, Communicating with the Frontal Lobe. C. F. Thelsen, Albany.

82. **Atrophy of the Testicle.**—Cumston says that when one testicle is only slightly atrophied it gives rise to very little disturbance, but when both organs are involved there is complete impotency, or at any rate generative impotency. Under certain circumstances certain psychic disturbances occur, such as loss of courage and activity, and to a certain extent, changes in character.

83. **The Nervous Child.**—Shaw discusses the effects of excessive emotionalism, and says that fear is the emotion most apt to produce permanent injury in a child of neurotic temperament. Fear implies imagination, and the child who suffers most is the most imaginative. Most of the neurasthenia, hypochondriasis and hysteria, in adults, may be traced to the effects of fear in early life. Reflex irritation, from whatever source, plays an important part in the etiology of child nervousness. It occurs from the prepuce or clitoris, from gastrointestinal irritation, slow absorption of intestinal toxins, etc. Shaw describes the characteristics of the nervous child, and particularly notes the display of this characteristic in regard to food. He condemns the custom of administering medicine in food. The training of the child's nervous system can not be begun too early. The child is an imitative creature, and if the parents expect to exert proper influence they must hold themselves in check in his presence. In cases of willfulness and lack of discipline, the best results can be obtained when the child is removed from his ordinary surroundings, though it is difficult to convince the parents that this is necessary and that the mother is not the proper person to take care of this kind of case. The nervous child is the product of our present-day methods of living and the genus is rapidly increasing.

Journal Arkansas Medical Society, Little Rock

April

85 Pulmonary Tuberculosis. D. C. Walt, Little Rock.
86 Measles. A. L. Carmichael, Little Rock.
87 *Rheumatism. M. G. Thompson, Hot Springs.
88 Surgical Cases. J. C. Hughes, Walnut Ridge.
89 *Puerperal Eclampsia. C. M. Lutterloh, Jonesboro.
90 Cases of Progressive Pneumonia. J. M. Stephens, Clover Bend.
91 Cancer of the Esophagus. A. Watkins, Little Rock.
92 *Toxemia of Pregnancy. E. C. Myers, Fort Smith.

May

93 The Coexistence of the Symptoms of Appendicitis and Right Kidney and Ureteral Irritation. L. Young, McAlester, Okla.
94 Symmetrical Gangrene, or Raynaud's Disease. L. E. Runkle, El Reno, Okla.
95 Extrauterine Pregnancy with Escape of Fetus through the Rectum. J. D. Harbert, Marie.

87. **Rheumatism.**—Thompson discusses the great variety of cases classed together under the term rheumatism. He particularly dwells on pressure, both inside and outside the rectum, as a factor in the causation of sciatica, and cites instances in which relief immediately followed a discontinuance of the habit of carrying heavy things, books, etc., in the hip pocket.

89. Abstracted in THE JOURNAL, 1908, p. 250.

92. **The Toxemia of Pregnancy.**—Myers summarizes his paper as follows:

1. There is a special toxemia of pregnancy, but the exact nature of the toxic substance or substances is not known.
2. The theory is tenable, that it may be due to some vice of placental syncytial tissue.
3. The pathologic changes are, primarily, necrosis of the periphery of the liver lobules in eclampsia, with secondary changes in the kidneys and brain, while in pernicious vomiting the necrosis is more marked in the center of the lobules as an acute atrophy of the liver.
4. Laboratory findings are of value in determining the question of treatment or termination of pregnancy, and the quantitative analysis of the nitrogen output is more important than searching for casts or albumin.
5. In eclampsia with soft, dilated cervix, empty the uterus at once. With rigid, undilated cervix, be governed by the clinical picture in each case. If critical, forcibly dilate and empty the uterus, or, under strict asepsis, perform Cesarean section.
6. In pernicious vomiting the time to terminate pregnancy must be determined by the laboratory analysis, if available, by the progressive emaciation, and the first indication of exhaustion fever.

Myers concludes that while careful uranalysis is an important aid, still such examinations have the value only of all laboratory reports, and any decision as to therapeutic measures or the termination of pregnancy must be based on the condition of the individual patient. And, while we should never be eager to do this, we must keep in mind the possible necessity of terminating pregnancy.

Colorado Medicine, Denver

May

96 Relation Between Retinal Hemorrhages and High Arterial Pressure. L. W. Fox and W. C. Batroff, Philadelphia.
97 Myocardial vs. Endocardial Affections as a Cause of Disability and Death. O. M. Gilbert, Boulder.
98 General Neuritis of both Cranial and Spinal Nerves following Typhoid. E. W. Lazell, Denver.
99 Plea for Concerted Action of the Profession in Matters Pertaining to Medical Legislation in Colorado. S. D. Van Meter, Denver.

Denver Medical Times and Utah Medical Journal

May

100 Etiology, Prophylaxis and Treatment of Puerperal Infection. H. E. Abrahams, Trinidad, Colo.
101 Management of Labor for Nurses. T. M. Burns, Denver.
102 Venereal Diseases. W. H. Davis, Denver.
103 Modern Trend in Medical Education. J. Sundwall, Salt Lake City.

Illinois Medical Journal, Springfield

May

104 *Psychotherapy. S. Kuh, Chicago.
105 *Psychotherapy from the Psychologist's Point of View. J. R. Angell, Chicago.
106 *The Religious Therapeutic Movement. I. H. Coriat, Boston.
107 *The Medical Uses of Hypnotism. H. T. Patrick, Chicago.
108 *The Scope of Psychotherapy. H. Gradle, Chicago.
109 Psychotheray. W. D. Scott, Evanston, Ill.
110 Prevention and Inhibition of Diffuse Suppurative Peritonitis. A. J. Ochsner, Chicago.
111 The Sequelæ of Acute Diffuse Suppurative Peritonitis. C. Davison, Chicago.
112 Report of Five Cases of Liver Resection. L. Feingold, Chicago.
113 Diagnosis and Treatment of Extrauterine Pregnancy. F. H. Martin, Chicago.
114 Blood Pressure in Chronic Interstitial Nephritis, with Special Reference to Treatment. G. W. Parker, Peoria.

104, 106, 107. Abstracted in THE JOURNAL, March 13, 1909, pp. 916, 917.

105. Abstracted in THE JOURNAL, March 13, 1909, p. 916, and published in the *Chicago Medical Recorder*, March, 1909.

108. **The Scope of Psychotherapy.**—Gradle says that while it is well known that the objective signs of any disease are directly proportionate to the intensity or extent of the morbid lesion or process, the subjective symptoms often seem to be more capricious in their degree. They vary with the individuality or even with the temper of the patient. The intensity of the pain and of other disagreeable sensations pro-

duced by a disturbance is increased by the concentration of attention, and conversely diminished by diversion of the attention. The query whether the mind can influence the actual course of lesions, as well as the subjective symptoms produced by them, is a difficult one to answer. As a rule, the cases quoted by older writers and the bulk of the illustrations mentioned by the laity can not stand the test of rigid criticism. Closer inquiry generally shows that subjective improvement was mistaken for objective changes. Indeed, it would be difficult to find the record of a case in which the direct influence of the mind on the course of any morbid lesion had been observed beyond doubt. It is easy enough to demonstrate the effect of emotions, of mental activity or mental fatigue on the circulation, the respiration and some secretions; in fact, on any process controlled directly by the nervous system. But it has yet to be shown that mental processes can in any way influence the phenomena of growth, of nutrition or of tissue change. Yet it seems reasonable to admit that the state of the patient's mind may directly influence the struggle with certain chronic diseases, especially those the course of which depends somewhat on the state of nutrition, as, for instance, slow tuberculosis. With confidence and hope a patient is much more apt to avail himself properly of all hygienic advantages and to utilize them to a better extent than when in a despondent frame of mind.

Bulletin Medical and Chirurgical Faculty of Maryland, Baltimore

May

115 Sketch of the Library of the Medical and Chirurgical Faculty of the State of Maryland. M. C. Noyes, Baltimore.

Memphis Medical Monthly

April

116 The Doctor's Attitude toward Certain Problems of Adolescence. B. F. Turner, Memphis, Tenn.
117 Sexual Education. H. C. Buck, Friars Point, Miss.
118 Experience with Apparently Mild Cases of Appendicitis. M. Moore, Memphis.
119 *Spirillosis of the Lungs. W. B. Johnson, Rosedale, Miss.
120 Treatment of Tuberculosis by Tuberculin. R. B. Underwood.

119. **Spirillosis of the Lung.**—Johnson records what he believes to be the first reported case of spirochetal infection of the lung. It occurred in a negro woman of 35, who had been feeling ill for a week before she had a hard chill followed by temperature of 106 F., pulse 110 and respirations 24. There was constant severe pain in the right side in the axillary line. Chest sounds were normal, except a few crepitant and subcrepitant râles. The lungs dilated evenly, there was slightly more fremitus and a duller note was heard on the right side posteriorly, and the breath and voice sounds were more distinct. The blood showed a sharp leucocytosis, but no malaria. The urine was loaded with albumen. The sputum, when stained for tubercle bacilli, showed none, but in every field there were numerous spirilla from one and a quarter to one and a half times the width of a red blood corpuscle, very thin and wavy. They stained blue, like the cocci, but not so dark. They also stained easily with a saturated suture of methylene blue, Loeffler's solution and the Wright blood stain. Johnson describes the course of the disease, which was severe, resolution setting in by crisis, with final recovery. The treatment was entirely symptomatic. He has seen two other cases, but reports this one only, as it was under observation from the initial chill. The case resembles relapsing fever, but no spirilla were found in the blood, while they were numerous in the sputum. The special complications of relapsing fever are bronchitis and pneumonia. He suggests a further search for this affection.

New Orleans Medical and Surgical Journal

May

121 Headaches as a Symptom in Pregnancy and Pelvic Disorders. C. N. Chavigny, New Orleans.
122 Nasal Causes of Headache. A. I. Weil, New Orleans.
123 Headaches of Organic and Constitutional Origin. I. I. Lemann, New Orleans.
124 Headaches Due to Functional and Organic Disturbances of the Eye. H. V. Blum, New Orleans.
125 Headaches as a Symptom of Disease of the Nervous System. R. M. Van Wart, New Orleans.
126 Treatment of Flatfoot. E. S. Hatch, New Orleans.
127 Interesting and Instructive Bone and Joint Cases. J. F. Oechsner, New Orleans
128 Importance of Examination of the Urine for Tubercle Bacilli, with Presentation of a Specimen of a Tuberculous Ureter Showing Calculi *in Situ*. F. W. Parham, New Orleans.
129 Use of the de Pezzar Catheter in Surgery. F. W. Parham, New Orleans.
130 Otitis Externa Acuta. R. F. Harrell, Alexandria, La.
131 Acute Nephritis in Children. O. M. Patterson, Bastrop, New Orleans.
132 Plea for Surgical Diagnosis by the General Practitioner with Report of Two Cases of Ruptured Tubal Pregnancy. T. Ragan, New Orleans.

Journal Oklahoma State Medical Association, Guthrie

January

133 Obstetrics and Gynecology. J. A. Walker, Shawnee.
134 Some Pathologic Conditions Justifying Therapeutic Abortion. G. H. Thrailkill, Chickasha.
135 Gonorrheal Complications of the Puerperium. J. J. Shippy, Belle Plain, Kan.
136 Syphilis. J. E. Stinson, Chickasha.

February

137 Plea for More Accurate Diagnosis of Disease in Infancy and Childhood. L. J. Moorman, Oklahoma City.
138 Laryngeal Diphtheria, with Special Reference to Intubation. T. J. Dodson, Mangum.
139 Points to be Observed and What they Indicate in the Examination of a Sick Child. J. H. Medaris, Helena.
140 Diagnosis of Brain Abscess—A Sequel to Purulent Otitis Media. H. C. Todd, Oklahoma City.
141 Professional Ethics. C. E. Frost, Duncan.

West Virginia Medical Journal, Wheeling

April

142 Examination of Insane Persons and Their Commitment to Asylums. J. R. Bloss, Huntington.
143 Surgical Treatment of Goiter. J. Schwinn, Wheeling.
144 Cholecystitis and Cholelithiasis. R. H. Edmondson, Morgantown.
145 Bronchopneumonia in Children. F. C. Abbott, Piedmont.

May

146 *Gastric Ulcer. C. R. Jones, Pittsburg, Pa.
147 Cardiac Asthma, Cheyne-Stokes Respiration, Bradycardia, Adams-Stokes Syndrome. L. D. Wilson, Wheeling.
148 Autointoxications and Nervous and Mental Diseases. G. H. Benton, Chester.
149 The Business Side of the Profession. W. H. Sharp, Parkersburg.
150 Diffuse Suppurative Peritonitis—The Fowler-Murphy Treatment. A. M. Burt, Elkins.

146. **Gastric Ulcer.**—Jones reports a few out of 66 consecutive cases of gastric ulcer treated during the last four years with the following results: Males, 19; females, 47; history of hematemesis, 11; hemorrhage during treatment, 3; rest cure, 51; ambulatory treatment, 15; recovery, 50; improved, 16; or approximately 75 per cent. and 25 per cent., respectively; no deaths. He controverts the modern tendency to advise gastroenterostomy as a routine measure in uncomplicated gastric ulcer. He considers that surgical interference of any kind has no place in the treatment of uncomplicated gastric ulcer. He has followed cases in which gastroenterostomy has been done and believes that the complications which may be charged entirely to the operative interference are far greater than those which naturally arise in cases of gastric ulcer undergoing a rational medical or dietary treatment. He appeals to the universally satisfactory results of medical treatment obtained by Von Leube and others in support of this position.

St. Paul Medical Journal

May

151 *Stenosis of the Pylorus in Infancy. C. L. Scudder, Boston.
152 *The Hygienic Element in the Treatment of Osseous Tuberculosis. C. F. Painter, Boston.
153 Conduct of Difficult and Abnormal Presentations. H. C. Johnson, St. Paul.

151. **Stenosis of the Pylorus.**—Scudder gives a general consideration of this subject, both from the literature and his own personal observations. He briefly records 12 cases, 5 of his own, and 7 from the literature, in each of which a posterior gastrojejunostomy was done, with the result that the babies recovered from the starvation caused by obstruction, increased properly in weight, are normal in height, and have maintained good health. These clinical observations appear to Scudder to demonstrate, that in children with a benign stenosis of the pylorus and otherwise without disease, gastrojejunostomy does not interfere with nutrition or with physiologic or anatomic development. Is it conceivable, he asks, that these children could live for years and develop into strong healthy individuals if the operation seriously interfered with metabolism?

152. **Osseous Tuberculosis.**—Painter bases his paper on the observations of a series of cases, admitted to the institution where they were studied for the express purpose of trying the effect of hygienic treatment exclusively, or as nearly so as seemed safe. Some of the patients were well advanced in the disease on admission. The figures offered by Painter go to emphasize the fact that tuberculous osseous foci situated elsewhere in the body are frequently complicated by lesions in the internal organs, and, whether the association be that of cause or effect, the consequences to the patient are those of a constitutional disease. Constitutional treatment, therefore, should play an important part in the management of tuberculous lesions, the most conspicuous manifestations of which may be in the osseous system. A readjustment of the values given to different features of treatment now in use is required. While a certain amount of apparatus is unquestionably necessary and desirable, its employment in the treatment of joint lesions should be so regulated that a minimal amount of such impairment of function may result, and it should be employed only so long as the patient requires the protection of the splint to avoid pain, prevent incorrectible deformity, or lessen the likelihood of suppuration.

Texas State Journal of Medicine, Fort Worth

May

154 *Retrodisplacements of the Uterus. W. Keiller, Galveston.
155 Chronic Interstitial Nephritis with Death from Uremia. S. B. Kirkpatrick, Waco.
156 Nasal Stenosis. D. A. Atkinson, Dallas.
157 Treatment of Tuberculous Joints from the Standpoint of the General Practitioner. G. E. Adams, Fort Worth.

154. **Retrodisplacement of Uterus.**—Keiller studies this subject from an anatomic standpoint. He calls special attention to the uterosacral ligament, and to the reflexion of the peritoneum from the side of the cervix to the side of the rectum, termed the rectouterine fold. He points out that in addition to the sheet of peritoneum there is a deeper fibrous sheet which passes from the sacrum in the region of the anterior sacral foramina to the vagina and cervix uteri, of which he has found no description. Its function appears to be to carry branches of the hypogastric plexus of the sympathetic and the third and fourth sacral nerves to the cervix uteri and the vagina. In some cases its uterine attachment receives a muscular band from the cervix uteri. Keiller regards this sheet of fascia as the main constituent of the uterosacral ligament and an important, if not the main support of the cervix uteri, and posterolateral fornix vaginæ. Repeated examinations to determine the cause of the prominent ridge in the peritoneum called the uterorectal fold has invariably shown it to be due to the fourth sacral nerve and vaginal branches of the internal iliac vessel. The man who shortens that fold by stitches, by either vaginal or abdominal route does so at great risk of including the visceral branches of the fourth sacral nerve or of wounding important blood vessels.

Washington Medical Annals

May

158 Smallpox as I have Seen it in the District of Columbia. L. Eliot, Washington.
159 Exophoria, its Symptoms, Significance and Treatment. O. Wilkinson, Washington.
160 Review in Obstetrics. A. F. A. King, Washington.
161 Lumbricoid Worm in Ovarian Abscess. H. D. Fry, Washington.
162 Acute Yellow Atrophy of Liver. D. P. Hickling, Washington.
163 Endothelioma of the Brain. E. M. Hasbrouck, Washington.

Women's Medical Journal, Toledo, O.

April

164 *Results in the Surgical Treatment of Cancer of the Uterus. E. B. Everitt, Philadelphia.
165 Early Microscopic Changes in Carcinoma of the Uterus. A. W. Williams, New York.
166 Cases of Inoperable Uterine Carcinoma. M. D. Rushmore, New York.
167 Diseases of the Accessory Sinuses of the Nose, with Demonstration of Specimens, *X*-Ray Plates, Drawings, Photographs and Transilluminating Apparatus. I. D. Kerr, Boston.

164. **Cancer of the Uterus.**—Everitt gives a brief historical review of the operative treatment and refers to the work of the committee of the American Medical Association. But she adds that any mention of the question of operability leads us at once into confusion, for undoubtedly to-day many mistake the possibility of operation at any hazard for highly probable operative cure. A considerable step will have been taken toward the desired eradication from the popular mind of the idea that cancer is an incurable disease when operators can be restrained from undertaking unwarranted procedures in extensive cases, whereby the mortality and morbidity of cancer operations are greatly increased, and some of our most valuable measures are brought consequently into disrepute. A notable proportion of the difficulties encountered in operating for cancer of the uterus are due to attempts to enucleate embedded ureters, to separate adherent bladder or bowel, or to excise involved portions of these viscera. One can hardly contemplate with any degree of patience the extensive mutilating operations falsely undertaken in the name of medical science, since a little application of the golden rule would forbid the inevitable making of the last state of the women worse than the first.

Southern Medical Journal, Nashville

April

168 *Flap Sliding Operation for Rectovaginal Fistula, Leaving Perineum and Sphincter Muscle Intact. G. H. Noble, Atlanta, Ga.
169 Tuberculosis of Bones and Joints. E. H. Bradford, Boston.
170 *Diagnosis of Tuberculosis Apart from Physical Signs. W. A. Oughterson, Nashville.
171 *Epidemic Cerebrospinal Meningitis. W. M. McCabe, Nashville.
172 *Transfusion of Blood as a Therapeutic Agent with Report of Transfusion in a Case of Pellagra. H. P. Cole, Mobile, Ala.
173 Irrigation of the Aqueous Chamber for the Removal of Remaining Cortex. H. Wood, Nashville.
174 *Vesicouterine Fistula and Loss of the Function of the Vesical and Urethral Sphincter Muscles, Both Conditions Successfully Operated on. R. S. Hill, Montgomery, Ala.
175 Importance of the Early Treatment of Cholecystitis. C. M. Rakestraw, Savannah, Ga.
176 Suggestions in Treatment of the Drug Habit. W. S. Robinson, Nashville, Ark.
177 Pathology and Treatment of Gonorrhea in the Female. E. C. de Moss, Nashville.
178 Operative Relief of Intestinal Obstruction. F. G. DuBose, Selma, Ala.

168. **Rectovaginal Fistula and Fistula-in-Ano.**—Noble reports two simple operations, the first for the relief of rectovaginal fistula, in the lower end of the vagina when the sphincter muscle and perineum are intact; the second for excision of a fistula-in-ano without cutting the sphincter muscle. Use is made of the principle, presented by the author some years ago, of making a flap of the anterior wall of the rectum and drawing it externally to the anus in cases of complete laceration of the perineum. Both operations have proved successful in the author's hands. The article is illustrated.

170. **Diagnosis of Tuberculosis.**—Oughterson discusses detection of bacilli in the sputum and the various now well-known reactions to tuberculin.

171. **Epidemic Cerebrospinal Meningitis.**—McCabe, seeing that tuberculous meningitis is the one with which the diagnosis of epidemic cerebrospinal meningitis is liable to be confounded, makes the following differentiation:

1. In the epidemic form the onset is sudden, while in the tuberculous type it is slow.
2. Temperature, eyes, and pulse are about the same in each disease. The temperature in the tuberculous variety may correspond more nearly to the tuberculous type of fever.
3. Neck symptoms, Kernig's sign; spasm of the extremities and paralysis, are more marked in the epdemic form.
4. Cerebral pressure, as shown by the fontanelles, is more marked in the epidemic type.
5. There is a high leucocyte count in the epidemic type, while there is a low count in the tuberculous variety.
6. We have the history of an epidemic variety, and a history of tuberculosis in the tuberculous form.
7. In the epidemic variety the cerebrospinal fluid is turbid and contains polymorphonuclear leucocytes in excess, and the meningococcus. In the tuberculous type the fluid is clear and contains lymphocytes in excess and the tubercle bacilli.

172. **Transfusion of Blood.**—Cole reports a case of pellagra successfully treated by transfusion. He gives a historical résumé of the subject, describes the present technic of arteriovenous transfusion, discusses the contraindications, their detection and avoidance, the method of cell protection, and deduces indications for transfusion in the extracellular and endotoxic groups of diseases, respectively.

174. **Vesicouterine Fistula.**—Hill reports the case of a woman who, one hour after completion of labor (which had lasted eighteen hours, a fully developed child with normal presentation being born dead), felt an intense desire to

urinate, which was followed by a tremendous gush of water from the vagina. From this time on, the urine passed continually and entirely through the cervix uteri. Vesicouterine fistula was diagnosed. Hill saw her six weeks later. Through a T-shaped incision in front of the cervix uteri, he closed with catgut suture the openings into the bladder and uterus, which were about the size of the end of the index finger. Union was perfect, but from the continuation of the urinary incontinence, the vesical and urethral sphincters lost their function. She returned home, but returned about six months later in the same condition, but with a three months' pregnancy to complicate matters. The following technic, which, so far as Hill knows, is original, was used: With a metal sound in the urethra as a guide, a median incision was made through the vaginal mucosa from a point one inch on the bladder wall to the meatus urinarius, and then around this orifice. The mucosa was dissected from the underlying structures to the extent of an inch or more, transverse measurement. The sound in the urethra was then changed for one of smaller size. Commencing at the bladder end of the denudation, the muscular structures were folded in or brought together with a continuous catgut suture passed transversely, but never deep enough to include the vesical or urethral mucosa. As the gut was made taut after each passage of the needle, the sound was drawn from its grasp. The vaginal mucosa was next trimmed and made to fit snugly over the underlying tissue and held in position with silkworm-gut sutures, some of which were carried through the muscular tissues, reinforcing the catgut sutures. The patient was catheterized with a small soft rubber catheter every four or six hours. Hill is opposed to leaving an instrument in the urethra after this operation, and suggests the advisability of establishing vesicovaginal or even suprapubic drainage in order not to disturb the parts until firm union is established. The extent of the dissection is to be regulated by the condition found in the individual case. Furthermore, if any one part of the muscular wall—for instance, either of the sphincter muscles—appears more injured than the rest, a special suture of catgut should be used to repair it.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 1

1 *Duty of the Medical Profession in the Prevention of National Deterioration. W. Coates.
2 Fistula Between the Stomach and Bile Passages. A. W. M. Robson.
3 Unusual Case of Appendix Abscess Due to the Pneumococcus and *Bacillus Coli Communis*. E. Harrison, and E. Turton.
4 *Indications for Nephropexy. W. Billington.
5 Lipoma in the Site of a Femoral Hernia. C. J. Patten.
6 Bilateral Nephrolithotomy. J. Clay.
7 Removal of a Large Varix of the Orbit. Sir W. J. Collins.
8 *Application of Continuous Suction in Surgery. H. T. Herring.
9 Fatal Case of Lead Poisoning Due to Diachylon. F. S. Heaney.

1. **National Degeneration.**—Coates discusses the question of national physical deterioration and insists on the duty of the medical profession to take part in arresting it. He urges increased power to education authorities for systematic inspection of school children, and cooperation between the medical profession and educationists. He discusses the value of judicious physical exercise and the provision of public playing fields, the diminishing birth rate and marriage, and urges the taxing of every bachelor over 30, and the giving of privileges for healthy families. He reviews the effect of mentally defective children on race decay and also that of overcrowding and housing and the planning of towns. He urges support of the various health societies that aim to improve the condition of the people and cites Sweden as demonstrating what can be done by a national effort to check race degeneration. He discusses the evil effects of impurity on stamina and the effect of venereal disease on the decay of the race, and in this regard urges a better equipping of young practitioners to grapple with the difficult and interesting problems connected with these complaints. Finally he discusses the effect of universal military service on the stamina of the race, and insists on the immense advantage that would accrue if a system of universal military training were enforced. Coates has watched over and over again the effect on recruits of their first three months' service; it has been marvelous. The lank, ungainly, casual, ill-developed loafer becomes an alert, strong, intelligent, orderly, self-respecting man.

4. **Nephropexy.**—Billington summarizes his paper—in which he discusses three groups of movable kidney, the predominant symptom in which is respectively local pain, digestive trouble, or spinal and cerebral neurasthenia—as follows:

1. Nephropexy is a safe and satisfactory surgical procedure.
2. Renal mobility alone is not an indication for operation.
3. Local pains of sufficient severity to diminish working efficiency are an indication for operation.
4. Chronic functional disturbance of the digestive system may be caused by movable kidney. Such cases often resist all kinds of general and medicinal treatment, and are greatly benefited by nephropexy.
5. Nephropexy is indicated in progressive spinal and cerebral neurasthenia occurring in association with movable kidney, when other measures have failed to cure or improvement is followed by rapid relapse.
6. Nephropexy is indicated when movable kidney is associated with insanity.

8. **Continuous Suction in Surgery.**—Herring advocates the use of continuous suction as opposed to intermittent aspiration, as a means of removing blood during operation and of subsequently draining wounds and withdrawing secretions, especially after cystotomy. He describes a portable apparatus which can be used in any place, and will easily maintain a continuous negative pressure without much attention.

Lancet, London

May 1

10 Rheumatic Fever and Valvular Disease. N. Moore.
11 *Removal of Tumors of the Large Intestine. A. E. J. Barker.
12 *When to Operate for Enlarged Prostate. P. J. Freyer.
13 Discrimination of Unrecognized Diseases. A Disease of Overcrowding in Ships, especially at Malta. W. E. Home.
14 Fatal Case of Splenomegalic Polycythemia (Erythremia). W. F. Umney.
15 Adenoids, Nocturnal Incontinence, and the Thyroid. L. Williams.
16 Streptococcal Pericarditis and Colitis Following Tonsillitis. J. S. Pearson.
17 Simple Method for the Sterile Collection of Blood. H. W. Bayly.
18 The Charitable Dispensaries in the Punjab. D. F. Keegan.

11. **Tumors of the Large Intestine.**—Barker says that the tumors with which we have to contend in the large intestine are almost invariably columnar epitheliomata of varying degrees of malignancy, slow growing, as a rule, and with but a moderate tendency to invade the lymphatic glands or generalize in other parts of the system. The whole question of safe removal of such masses is influenced more by the presence or absence of associated obstruction than by anything else. If there is but little or no obstruction to the passage of feces through the affected part, the removal of a segment of the bowel is, to a large extent, merely a question of skill and accuracy of technic. But if obstruction is present great judgment is necessary as to whether we shall first relieve the overloaded gut by making an artificial anus for a few weeks' preliminary drainage, or at once proceed to remove the tumor and unite the divided ends. The first course is usually best, on account of the technical difficulty of dealing with a bowel greatly distended with feces above a constriction of the danger of soiling the peritoneum and wound, the difficulty of suturing after excision—which may sometimes be avoided by lateral anastomosis—and the danger of giving way of the stitches, owing to the paralyzed and sodden conditions of the bowel, proximal to a bad obstruction. It is a better and safer rule to make a provisional drain opening in the upper bowel and allow the gut to recover in a couple of weeks before attempting a junction. A careful study of the history and course of each case, and close examination of the abdomen to determine whether or not the bowel is likely to be loaded with liquid feces, should precede any operative undertaking. Barker condemns the preoperative administration of purgatives in cases low down, but considers enemata, repeated as often as necessary, desirable—not, however, just before operation. He then describes cases to illustrate his technic under varying conditions. He discusses the comparative merits of

the dorsal methods, Kraske's operation, and the combined method.

12. **Operation for Enlarged Prostate.**—Freyer analyzes his statistics in 600 cases of his operation for total enucleation of the prostate, in patients varying between 48 and 89 years with an average age of 68½ years. The majority had been entirely dependent on the catheter for very many years. Nearly all were broken in health, most of them subjects of grave complications, many apparently dying. In the 600 cases there were 37 deaths, in periods ranging from 6 hours to 37 days after the operation, or a mortality of 6.15 per cent. The mortality has been steadily decreasing from 10 per cent. in the first 100 cases to 4 per cent. in the last. The causes of death were uremic symptoms due to chronic kidney disease, 16; heart failure, 6; septicemia, 2; shock, 3; exhaustion (kidneys much diseased), 1; mania (hereditary in 1), 2; malignant disease of liver, 2; heat stroke, 1; pneumonia, 1; acute bronchitis, 1; pulmonary embolism, 1; and cerebral hemorrhage with paralysis, 1. Though all these deaths are accepted in connection with the operation, in not more than half the number can the fatal result be attributed thereto, the remaining deaths being due to disease incident to old age and unconnected with the operation. In 108 cases vesical calculi were removed at the same time, but all the deaths in these cases are accepted in connection with the prostatectomy, none being put down to the suprapubic lithotomy involved. Freyer reports on his first two patients, now aged, respectively, 75 and 79 years, over 8 years having elapsed since the operation. Their sufferings were severe, their life entirely dependent on the catheter prior to operation. Since operation no instrument of any kind has been employed, there is perfect freedom from urinary symptoms, they are in excellent health, and sexual power has been regained.

Medical Press and Circular, London

April 28

19 Renal Calculus (concluded). A. Fullerton.
20 Gallstones in Gall Bladder, Cystic Duct, Common Duct, and Hepatic Ducts, in a Girl of Seventeen. T. Carwardine.
21 Oral Bacteria and Acquired Immunity to Disease. J. S. Wallace.
22 The Provident Dispensary. G. Crichton.

Clinical Journal, London

April 28

23 *Diagnosis and Treatment of Pus Formation in Appendicitis. E. M. Corner.
24 *Red Degeneration of Uterine Fibromyomata. F. E. Taylor.
25 Autoinoculation Versus Heteroinoculation in Treatment of Established Infection (concluded). E. C. Hort.

23. **Suppuration in Appendicitis.**—This article is similar to, and the conclusions are identical with those of an article by the same author in the *Medical Press and Circular*, Dec. 9, 1908; abstracted in THE JOURNAL, Jan. 9, 1909, p. 170.

24. **Red Degeneration of Uterine Fibromyomata.**—Taylor concludes that red degeneration of uterine fibromyomata is an aseptic necrobiosis of the tumor cells, associated with a diffuse staining of the tissues with hemoglobin, due to some local disturbance of nutrition in which pregnancy often, but by no means invariably plays a part.

Journal of Obstetrics and Gynecology, London

April

26 *Pathology of the Red Degeneration of Uterine Myomata. J. L. Smith, and W. F. Shaw.
27 *Menstruation and Menorrhagia. F. E. Willey.

26. **Red Degeneration of Uterine Myomata.**—Smith and Shaw arrive at the following conclusions, on the basis of three cases by A. Donald, one by W. K. Walls, and one by A. W. Lea:

1. The chief change in "red degeneration" of fibroids consists in thrombosis of the bloodvessels.
2. This thrombosis and red coloration may commence at the periphery of the tumor.
3. The tumors are also in a state of degeneration as evidenced by a homogeneous material separating the muscle bundles in many places.
4. The tumors contain fat and fat crystals, probably derived from the breaking up of the muscle bundles.
5. The tumors are liable to become infected by septic organisms and so to give rise to acute toxic sympfoms.
6. Pregnancy is probably a predisposing factor in the causation of this condition.

27. **Menstruation and Menorrhagia.**—Willey says that we may still regard the monthly cycle as a preparation of the uterus for the development of an impregnated ovum, but we must realize that the important physiologic requirement is an efficient blood supply to the uterine musculature. Three points are important: 1. Many capillary fissures are closed during the intermenstrual period and become filled with blood and act as part of the general vascular system during menstruation and pregnancy. 2. The uterus increases in size during menstruation. 3. Besides contractility, uterine muscle possesses great possibility of hypertrophy. The monthly cycle is a vasomotor change of uncertain origin, but dependent on ovarian integrity, whereby the uterine wall is richly supplied with blood in preparation for hypertrophy in presence of an impregnated ovum. When no pregnancy occurs the increased blood supply escapes by rupture of capillaries and diapedesis of corpuscle, with possibly some slight destruction of surface epithelium. If this view of menstruation is true the endometrium plays a passive and secondary part at the monthly cycle, and menorrhagia should direct attention to the blood supply of the muscular wall, rather than to the endometrium. Various observations in reference to causation of congestion of the uterus and inefficient action of uterine muscle which lend support to this view are discussed. From these considerations Willey concludes that in menorrhagia without physical signs the aim should be (1) to relieve undue congestion—pessary or operation for misplacement, treatment of constipation and general conditions, etc.; (2) to eliminate sources of poison to the uterine muscle—lead or phosphorus poisoning, alcoholism, etc.; (3) to improve the general muscular tone of the patient by regular hours, simple nutritious food, gradually increasing outdoor exercise, Swedish movements, etc.—exercises of the arms and upper part of the body are often useful to relieve uterine congestion; (4) to assist the action of uterine muscle directly by suitable drugs, e. g., hydrastis or the cotarnin salts. Massage to the uterus, she considers harmful by directing attention to the pelvic organs. Curetting is indicated in many cases for diagnostic purposes.

Quarterly Journal of Medicine, London

April

28 Bronchiolectasis in Children. E. Leach.
29 Vasodilators in High Blood Pressure. E. Matthew.
30 *Etiology of Endemic Goiter. R. McCarrison.
31 Infective Endocarditis. T. J. Horder.
32 Acidosis. E. I. Spriggs.

30. **Goiter.**—McCarrison reports experimental investigations as follows:

1. The experimental administration to man of suspended matter, separated by infiltration from goiter-producing waters.
2. The experimental administration to man of boiled suspended matter, separated by filtration from goiter-producing waters.
3. The administration to goitrous individuals of intestinal antiseptics, notably thymol.
4. Experiments on monkeys to test the possibility of the spread of the disease by the feces of sufferers from it.
5. The microscopic examination of the feces of goitrous individuals.

McCarrison sums up the results of his researches in the following terms:

1. Goiter can be experimentally produced in man by the administration of the mater in suspension separated by infiltration from waters which are known to be goiter producing.
2. Goiter can not be so produced when the suspended matter is boiled.
3. The disease is due, therefore, not to the mineral but to the living component of the suspended matter, in other words to a living organism of disease.
4. The incubation period of experimentally produced goiter is from thirteen to fifteen days.
5. Goiter can be cured by the administration of intestinal antiseptics. It is probable, therefore, that the organism which is the cause of the disease is parasitic in the human intestine.
6. The feces of most cases of goiter in Gilgit show a plentiful amebic infection, but whether the disease is due to this infection has not been determined.

Glasgow Medical Journal

April

33 Recent Researches on Immunity, Especially in Relation to Diagnosis and Treatment. R. Muir.
34 *Cerebral Physiology and the Education of Abnormal Children (concluded). J. K. Love.

34. **Education of Abnormal Children.**—Love discusses the cases of Laura Bridgman and Helen Keller and gives a short

study of aphasia with the related conditions of word deafness and word blindness, which not only helps to the understanding of the mechanism of speech, but throws light on the management of a small class of extremely difficult, but also extremely important cases among backward children, as well as helping in the understanding of the difficulties of the deaf and blind. Love lays down the following general principles:

1. It is useless hammering along a ruined tract or along a sound tract toward a ruined center, in the hope of imparting knowledge to a really deaf and blind child. It is better to use a circuitous, though less used route.
2. When the remains of sight and hearing are considerable—when in the deaf they serve for the discovery of vowels, consonants, and words; in the blind, for what under favorable conditions of light, etc., is written on a book or a blackboard—these should be used to the utmost.
3. When a circuitous route is necessary, education should be directed so that Broca's center, the hereditary center for the memory of spoken words, is used.
4. When a boy is clever with his hands and good in his games, when the difficulty is chiefly with his acquisition of language, word-deafness and word-blindness should be sought for.
5. In the teaching of the aphasic child who is not mentally deficient, Broca's convolution on the right side, unless the defect is bilateral, may be made to take up the work of the hereditary speech center of the left side. When failure shows that the defect is probably bilateral, education may proceed by the help of writing, and the manual alphabet.
6. Mentally deficient children offer a different problem of the educator. The great need of the moment is to recognize their limitations.

Having due regard to physiologic indications present, the teacher should be left as free as possible in selecting the method and ordering the education of the abnormal child. The author, however, lays down the following physiologic indications with regard to the education of the orally taught deaf:

(a) As signs are used very extensively in the education of the hearing child—during his first and second years of life—there is no physiologic reason for suppressing them at the beginning of the school education of the deaf child. They should be used just as they are with hearing children, and excluded, as in the case of the latter, as soon as the more accurate equivalent has been learnt.
(b) During the early years of school life the acquisition of articulate speech should be the chief business of the deaf child. As soon as may be, a vocabulary of common words should be so thoroughly learnt that its use in speech becomes automatic.
(c) In the education of the deaf, drawing should follow speech and precede writing.
(d) Until speech has become automatic no finger-spelling should be known to a deaf child. A combined method, in which the combination is that of finger-spelling and speech is, from the physiologic standpoint, to be condemned.
(e) The difficulty of procuring automatic speech in the deaf-born, while necessarily limiting the use of speech by these children, does not mean that it is not worth while teaching them speech.

Archives des Maladies du Cœur, Etc., Paris

April, II, No. 4, pp. 193-256

35 *Reactions on the Part of the Vessels: The Ice Test. (Réactions vasculaires: L'épreuve de la glace.) O. Josué and H. Paillard.
36 *Broncho-esophagoscopy in Diagnosis of Aneurism of the Aorta. Guisez.
37 *Gastric Cancer and Pernicious Anemia. A. Clerc and Gy.

35. **Ice Test for Vascular Reactions.**—Josué and Paillard have been seeking a test for reactions on the part of the vessels less fatiguing than the tests by severe muscular exertion or extensive application of heat or cold, and claim that their new ice test is a simple and reliable means for ascertaining the functional capacity of the blood vessels. It consists merely in the application of a piece of ice to the bend of the elbow; the patient is reclining with the arm exposed and the palm up, and all the muscles of the arm relaxed. Every two minutes the pulse is counted for a quarter of a minute, after which the arterial pressure is recorded with a mercury sphygmomanometer (the modified Potain apparatus). The pulse and arterial tension are thus recorded three times in turn at intervals of two minutes. After an interval of another two minutes the ice is then placed in the bend of the elbow. The pulse and tension are recorded again the moment the ice is applied and again after two, four and six minutes. After two more minutes the ice is removed, the skin wiped and the pulse and tension are recorded again after two, four and six minutes. The ice must not exert pressure on the arm, which would interfere with the circulation, but must be held. Among 100 persons to whom this test was applied it was easy to distinguish the arteriosclerotics and the tuberculous, as in them the reaction always differed so decidedly from normal. With normal conditions in the arterial system the arterial pressure adapts itself to the influence of the ice and there is no modification in the pressure, but the pulse varies, or the pressure may vary and also the pulse, but always according to Marey's law; namely, that the pulse grows slow as the pressure increases and faster as the pressure diminishes. In case of functional incapacity on the part of the vessels the pulse does not vary, but the pressure fluctuates, or both fluctuate contrary to the Marey law. This abnormal reaction occurs frequently in arteriosclerosis, especially with involvement of the aorta. The same abnormal reaction occurs also in tuberculosis, but with the difference that the pressure declines progressively during and after the application of the ice, while in arteriosclerosis the pulse remains stable, while the pressure drops, but the latter rises again as the ice is removed. Among the practical points learned by this test is that arteriosclerotic patients presenting normal curves with the ice test have a more favorable prognosis. The test also throws light on the mechanism and action of digitalis in heart disease amenable to digitalis. The ice test further refutes the common assumption that the arterial pressure keeps at a constant level in the individual; on the contrary it is liable to vary within wide limits even from mere emotions. This shows the necessity for caution in ascribing to the effects of treatment any reduction in the pressure observed afterward. Twenty-five typical curves are given to show the reaction in various conditions. One curve shows remarkable fluctuations in the pulse, while the pressure was practically stable; this subject was a healthy girl of 18, very emotional.

36. **Bronchoesophagoscopy in Diagnosis of Aneurism of the Aorta.**—Guisez gives a number of illustrations to show how an otherwise latent aneurism may compress the trachea or esophagus and induce disturbances, the cause of which can be revealed only by direct visual inspection, disclosing the bulging of the wall into the lumen from the encroachment of the aneurism. He also reports the details of eight cases in which this syndrome was observed, and warns that aneurism of the aorta should be suspected whenever no other cause can be discovered for respiratory or esophageal disturbances.

37. **Gastric Cancer and Pernicious Anemia.**—Clerc and Gy give over two pages of bibliographic references on the subject of progressive pernicious anemia secondary to cancer, and warn that the presence of the cancer may be unsuspected and the whole syndrome referred to idiopathic progressive pernicious anemia, when in fact the anemia is secondary to an otherwise latent cancer. Neither examination of the blood nor the clinical symptoms nor the theoretical bases distinguish the anemia in these cases from idiopathic, progressive anemia. The latter, they say, is losing ground constantly as a morbid entity, while gaining more and more ground as a syndrome, whether the hemolysis results from the action of a cancer, the bothriocephalus, lead or other poisoning or infection. In the cases secondary to cancer the patients on record have been between 35 and 50, generally men, and the symptoms were those of progressive anemia with nothing to suggest cancer except possibly continuous, occult hemorrhages in the digestive tract. This symptom was pronounced in a personal case recently encountered.

Obstétrique, Paris

March, N. S. II, No. 3, pp. 177-239

38 Treatment of Vesicovaginal Fistulas. (Traitement des fistules vésico-vaginales par le procédé de Bracquehaye.) A. Brindeau.
39 Serodiagnosis of Syphilis in Pregnant Women and New-Born Infants. II. (Syphilis chez la femme enceinte et l'enfant nouveau-né.) P. Bar and R. Daunay.
40 *Goiter and Congestion in the Thyroid in the New-Born. L. Thévenot.

40. **Goiter in the New-Born.**—Thévenot has found a number of cases of goiter in the new-born on record in the last few years, and here discusses the symptoms liable to be observed. When the enlargement is simple congestion it is liable to disappear within twenty-four hours or may appear intermittently and recurring attacks of dyspnea may be observed. The head of the child should be drawn back to examine the thyroid region for possible goiter in every case of dyspnea in

an infant. In the mild congestions, hot baths, revulsion to the legs, purgatives and ice to the thyroid region may aid in reducing the congestion, supplemented by potassium iodid and the ordinary measures for goiter. Guillermin reported last year that he shelled out of their nests the lobes of the thyroid with his fingers in one case, as for exothyropexy, and thus relieved the dyspnea without the necessity for an operation. If operative treatment is required exothyropexy is the preferable technic, possibly supplemented by an incision in the isthmus to hasten subsidence of the congestion. Pregnant women with goiter should be treated energetically to prevent congenital development of goiter in the fetus. Schmidt began at the fourth month to give iodin treatment to a pregnant woman who had already lost two children from congenital goiter. The mother's goiter diminished and the child was born free from goiter.

Presse Médicale, Paris

April 10, XVII, No. 29, pp. 257-264

41 Kala-Azar and Oriental Sore. (Leishmanioses.) A. Laveran.
42 *Draining the Popliteal Space. (Drainage du creux poplité dans l'ostéomyélite de l'extrémité inférieure du fémur.) P. Hardouin.

April 14, No. 30, pp. 265-272

43 *Traumatic Nephritis with Unilateral Edema. Klippel and E. Chabrol.
44 Course of Gunshot Wounds of the Abdomen. (Evolution en général des plaies pénétrantes de l'abdomen par petits projectiles de guerre.) J. Doche.
45 *Influence of Restricted Localization of Drug on its Action. (Essais d'une nouvelle méthode thérapeutique.) R. de Gaulejac.

42. **Drainage of the Popliteal Space.**—Hardouin shows in several illustrations the danger of compressing the blood vessels in draining the popliteal space and suggests a technic which renders such injury impossible. In osteomyelitis of the lower end of the femur, for example, he trephines the femur through an incision at the junction of the front and inner aspects of the thigh. The opening through the bone slopes downward slightly, and forceps are passed through it and pushed down and outward until they project under the skin in the popliteal space. The skin is incised a little outside of the median line and a fenestrated drain tube is introduced and then seized by the forceps and drawn back with them through the bone and out through the first opening on the opposite side above. By this means the region is thoroughly drained, while the tube passing through the bone does not come at all in contact with the vessels and causes no disturbance of any kind. This was shown in a recent case in which the parents insisted on taking away the patient, a boy of 5, six days after the drain had been introduced. The child was not seen again for three months, when the drain was found still in place and doing no harm, except for a little redness around the openings, which soon disappeared when the drain was removed.

43. **Traumatic Nephritis with Unilateral Edema.**—The case described is interesting from the development of the traumatic nephritis a few days after the accident, the enormous edema of the arm and breast on the injured side, the intense pain in the lumbar region, on the same side, and finally, three weeks after the accident, development of serious nephritis in the previously sound kidney proving fatal in ten days. The assumption of development of nephrotoxins best explains certain features of the case.

45. **Modification of Injected Toxin Restricted to a Certain Area.**—Gaulejac states that his experimental research has confirmed the fact he observed in a case of viper bite; namely, that an otherwise fatal toxin became harmless when it was temporarily localized in a certain limited area. An otherwise fatal dose of cocain could be injected without harm into the cellular tissue of the hind leg of a guinea-pig after applying a constricting band above to induce venous stasis for two hours at least. After removal of the band the signs of toxic action were few and slight. If all the interstitial fluid in the limb below the constriction were withdrawn it was found to contain nearly all the cocain injected, and yet injecting this fluid into another guinea-pig failed to cause any appreciable signs of intoxication. He ascribes this phenomenon of reduced toxicity to three factors: the damming of the circulation, the mechanical influence of the cellular tissue and its power to modify the toxin, and lastly to the antitoxic action of the edema fluids. These three factors vary with the age, the individual and the tissues injected, but they throw light on the mode of action of passive hyperemic treatment, of "fixation abscesses" and on the healing of tuberculous lesions in the lungs during a concomitant bacillary arthritis.

Revue de Chirurgie, Paris

April, XXIX, No. 4, pp. 661-872

46 *Sporotrichosis of the Bones and Joints. (Sporotrichose osseuse et ostéo-articulaire.) De Beurmann, Gougerot and Vaucher.

46. **Sporotrichosis of Bones and Joints.**—The importance of differentiating bone and joint affections caused by the sporotrichum lies mostly in the prognosis and possibility of effectual treatment. The patient is relieved from suspicion of tuberculosis or syphilis, and can be cured by medical treatment without the necessity for surgical intervention. In a case reported by Josset the affection had dragged along for three years undifferentiated, but was cured in a month by iodo-iodid treatment. The lesion had simulated chronic osteomyelitis and four operations had been performed. The lesions have often been taken for gummy tumors. Cultivation of the sporotrichum from the lesions and experimental reproduction of the osteitis confirms the diagnosis. The cultivation of the germs or the sporo-agglutination test is a simple and easy method for differentiating these lesions, and should be instituted in every dubious case of acute, subacute or chronic osteitis. Five typical cases are described in detail and extensive experimental research is reported with illustrations of the manifold lesions that may be induced by the sporotrichum, spontaneously or experimentally.

Berliner klinische Wochenschrift

April 19, XLVI, No. 16, pp. 717-764

47 Tube Casts in Urine free from Albumin and their Relation to Chronic Constipation. (Zylindrurie im eiweissfreien Harn und ihre Beziehungen zur chronischen Obstipation.) Wasserthal.
48 Study of Heart Action with the Electrocardiogram. (Elektrocardiographische Untersuchungen zur Physiologie und Pathologie des Herzschlags.) Strubell.
49 *Method for Determining and Locating Ulcers in Upper Digestive Tract. M. Einhorn.
50 *External Urethrotomy. C. Posner.

April 26, No. 17, pp. 765-812

51 *Protection of Wounds against Infectious Germs from Adjoining Skin. (Schutz der Wunde—bei Verletzungen und Operationen—vor den Infektionskeimen der benachbarten Haut.) F. König.
52 *Pathogenesis and Treatment of Anuria. H. Kümmell. Commenced in No. 16.
53 *Roentgen Examination of Surgical Gastric Lesions. (Röntgenuntersuchungen chirurgischer Magenkrankheiten.) V. Schmieden and F. Härtel. Commenced in No. 15.
54 Resection of Nerve Roots for Spastic Paralysis. (Zwei Fälle von Forster'scher Operation nach spastischen Lähmungen.) Gottstein.
55 *Complement Fixation in Gastric Cancer. (Biologische Untersuchungen über den Magenkrebs.) S. Livierato.

49. The technic described is similar to that summarized in THE JOURNAL, July 4, 1908, page 73.

50. **External Urethrotomy.**—Posner relates a case in which it proved impossible to find the posterior stump of the urethra so as to introduce a sound after external urethrotomy, and the urine flowed over the wound. Further efforts at catheterization were abandoned and very soon some of the urine passed through the urethra, the amount gradually increasing until normal functioning was re-established with only a little aid. Expectant treatment is thus justified in the rare cases in which the posterior stump evades discovery. Always, however, under the assumption that there is no retention of urine, but that it is normally voided, although by an abnormal route.

51. **Disinfection of Field and Adjoining Skin Before Operations.**—König systematically refrains from scrubbing the field of operation and merely paints it and the surrounding skin with tincture of iodin. The alcohol hardens the tissues, holds the bacteria immovable, and has a slight inhibiting action on them while inducing more or less hyperemia in the region, all of which are advantages in surgical work, while the patients

are not annoyed, chilled and depressed as by the usual scrubbing procedures. By thus avoiding danger of chilling, the tendency to postoperative complications on the part of the lungs is reduced. The patient gets his general bath and is shaved long enough beforehand to allow the skin to be thoroughly dry before the iodin is applied. Regions peculiarly sensitive, such as the scrotum and perineum, are not treated with the iodin. The disadvantages of the iodin disinfection are that the field of operation is so discolored that one has to habituate himself to the negro-like aspect to be able to recognize the various tissues. Another disadvantage is that the operation must be done as dry as possible, as fluids wash away the tincture; moist compresses must not be used directly on the painted surface. When the operation is completed he pours a little of the tincture on the line of suture to ensure fine linear scars. He compares this revolutionary passive disinfection of the skin with the experiences with carbolic-acid spray formerly used to disinfect the air in the operating room. It was found that the spray stirred up and mobilized the bacteria, doing more harm than good, and he believes that the scrubbing has the same harmful effect, stirring up the bacteria and washing them into the field and promoting the secretion of the glands, thus bringing germs to the surface which otherwise would slumber peacefully in the depths. To leave them unmolested is the safest course, and he thinks that this is best accomplished by the iodin disinfection of the surface to be operated on.

52. **Anuria.**—Kümmell reviews his experience with anuria at Hamburg and emphasizes the necessity for regarding anuria as a very serious condition, not to be neglected any more than acute ileus or incarceration of a hernia. The patients sometimes experience apparently no ill results; in one of his cases the patient felt perfectly well, notwithstanding four days of total anuria from obstruction by a kidney stone, and was with difficulty persuaded to allow an operation. In one case the anuria persisted for twenty and in another for thirty days, and normal urination was then spontaneously restored. These are the rare exceptions; the anuria, as a rule, entails a comatous uremic state after a phase of subjective freedom from disturbances. Anuria from renal concrements offers a grateful field for treatment when recognized early. If the *x*-rays show the stone to be too large to anticipate its expulsion by the natural routes operative intervention should be advised at once without further waste of time. If not larger than a cherry stone, or if its shape permits the hope of spontaneous expulsion, the ureter should be catheterized in the hope of dislodging the stone or stimulating the ureter to more energetic peristalsis, with or without injection of oil or glycerin through the catheter. Casper succeeded in stimulating the ureter by injecting water into the kidney pelvis on the other side, the reflex peristalsis thus induced becoming so vigorous that the uncatheterized ureter expelled the obstructing stone. Kümmell advises the use of the ureter catheter whenever indicated, but if no effect is promptly realized he would not waste further time on it, but proceed at once to the operation. In case there is obstruction in both kidneys his experience confirms the advisability of operating first on the kidney last obstructed. In case the wrong kidney is exposed, by a mistake in diagnosis, he advises opening up at once the other kidney and removal of the concrements. If the stone is in the ureter and the obstruction is comparatively recent it may be unnecessary to open the kidney, but if the obstruction is of long standing the kidney above is necessarily altered; also if the patient is comatous when first seen the kidney should be incised. In his nine cases of concrement anuria in three patients there was only one kidney in each, and these individuals all died, although one might have been saved by prompt removal of the stone. In all his cases the trouble was so advanced that operative intervention had scarcely any chance. The prospects are less favorable with anuria resulting from disturbances in the circulation; internal measures are indicated here, diuretics, saline infusion, venesection and, in extreme cases, decapsulation of the kidney. He has done decapsulation in 30 cases, with recovery in 10 and great improvement in 15 others. It is indicated, he says, in prolonged chronic nephritis before anuria has developed, and also in acute hemorrhagic nephritis with scanty or no urine voided, especially when it is a sequel of scarlet fever, eclampsia or sepsis. Success was pronounced in all his cases of this kind. Catheterization of the ureters is also liable to induce benefit in these cases. It is liable to set up a reflex secretion which may transform the prognosis even in cases of chronic interstitial nephritis with anuria, as also in inhibition of the kidney functioning by toxic and nervous influences. The irritation of the ureter mucosa by the catheter may stimulate the functioning of both ureter and kidney.

53. **Roentgen Examination of Surgical Stomach Lesions.**—This long communication from Bier's clinic at Berlin is accompanied by 49 illustrations of the Roentgen findings in various cases out of a total of 100 thus examined. Each illustration is accompanied by the clinical history of the patient in question. The findings are recorded on a large uniform diagram of the trunk with blank spaces above for record of anamnesis, palpation, distention, stool, siphonage of the stomach, fasting, and after the test breakfast noting amount, microscopic findings and blood, and, with qualitative reaction, free HCl and lactic acid, and, quantitatively, total acidity and free HCl. A plaster cast is also taken of the stomach in the cases that come to autopsy, which is proving instructive for comparison of the cast of the lumen of the pathologic stomach with the records of the Roentgen findings during life.

55. Abstracted in THE JOURNAL, May 15, page 1633.

Deutsche medizinische Wochenschrift, Berlin

April 22, XXXV, No. 16, pp. 697-744

56 *Strangulation of the Cauda Equina. (Ueber Einklemmung bzw. Strangulation der Cauda Equina.) H. Oppenheim and F. Krause.
57 Localization of Projectiles in the Skull. (Ueber die Ortsbestimmung von Geschossen im Schädel.) H. Braun.
58 Local Anesthesia for Inguinal Hernia. (Technisches zur Ausführung der Lokalanästhesie bei grösseren Leistenhernien.) A. v. Lichtenberg.
59 *Pathogenesis of Nervous Secretory Disturbances of the Stomach. (Zur Pathogenese der nervösen Sekretionsstörungen des Magens.) A. Bickel.
60 *Testing of Functioning of Pancreas. (Zur Funktionsprüfung des Pankreas.) O. Gross.
61 *Syphilis of the Nervous System. (Verschiedene klinische Erscheinungsformen von Lues des Zerebrospinalsystems.) Engelen.
62 *Experimental Cancer Research and Parasitism. (Experimentelle Krebsforschung und Infektionstheorie.) C. Lewin.
63 Action of Formaldehyd on Tuberculous Sputum. A. Kaiser.

56. **Strangulation of the Cauda Equina.**—Oppenheim and Krause give an illustrated description of two cases in which severe symptoms of an affection of the cauda equina came on suddenly. As there was nothing to suggest syphilis, a tumor was assumed and an operation revealed some compression by a tumor or protuberance in the bone. But this did not explain the sudden onset of symptoms, and they assume that the tumor had caused no appreciable disturbance until the patient stooped to lift a heavy weight. This had squeezed the fibers up above the point of the compression. As the fibers became loosened they spread a little, after which they were unable to slide back into their place below and the whole bundle of fibers was thus incarcerated, as it were. The operation revealed the cauda roots displaced, sagging and spread apart, above the narrow point in the lumen, this incarceration being favored by the dilatation of the veins accompanying the roots. The trouble is aggravated by the resulting serous meningitis.

59. **Pathogenesis of Nervous Secretory Disturbances in the Stomach.**—Bickel has learned several new facts from research on dogs with a blind pouch made artificially from the fundus of the stomach and separated entirely from the rest of the body except for the arteries and veins. This second stomach has thus no connection with the nervous apparatus except for the minute nerves in the walls of the vessels. This "nerveless stomach" continued to secrete gastric juice of normal composition, and this secretion was stimulated by subcutaneous injection of meat extract or ingestion into the primary stomach of meat, bread or milk, the increased secretion commencing about ten or fifteen minutes after the commencement of the feeding. It is evident that the stomach.

like the heart, can continue its functioning even when deprived of all connection with the nervous system outside of the organ. Also that the stimulus for the secreting function is supplied by the food. His experiences have further shown that the "nerveless stomach" displays no tendency to atrophy or impairment of function; the tendency is rather toward hyperfunctioning. His research was undertaken in connection with an address he is preparing for the approaching International Medical Congress on the "Pathology of Secretion and Motility in the Digestive Canal" with special regard to his theory of the stimulation of the juice-producing cells by chemical substances circulating in the blood. This "blood stimulation" of the cell parenchyma is more or less continuous, and is the principal factor in the gastric secretion. The extragastric nervous secretion mechanism studied by Pawlow has merely a regulating function. Bickel's conception explains the importance of dietetic and purely psychic, suggestive treatment of secretory disturbances. It further emphasizes the psychic element in these disturbances and in the effects of medication and of balneologic and dietetic measures, and the possible curative influence of exclusion or stimulation of certain special nerve tracts.

60. **Testing Functioning of Pancreas.**—Gross has applied to the stools the casein test which has been found useful for examination of pure pancreatic juice and commercial trypsin. The technic is simple and the reaction occurs at physiologic temperature. It is based on the fact that casein, readily soluble in an alkali, is promptly precipitated by acetic acid, in contrast to the products digested by it. Examination of the stools in 200 cases revealed the presence of trypsin in every instance in which the digestion was normal, while the findings were constantly negative in a case of cancer of the pancreas and in one of complete occlusion of the common bile duct. In another case differentiated as cirrhosis of the pancreas, the test revealed normal pancreatic functioning and the integrity of the pancreas was confirmed by autopsy. In a case of hour-glass stomach the oil test breakfast indicated lack of normal pancreatic functioning, but the casein test of the stool gave normal findings in regard to tryptic digestion. The combination of these two tests may therefore prove useful in diagnosing hour-glass stomach. The intensity of tryptic digestion varied within wide limits on different diets, but showed very little fluctuation on an identical diet. This tryptic digestion is most pronounced on an albumin diet (lean meat), and was not influenced by concomitant gastrointestinal disturbance.

61. **Syphilis of the Nervous System.**—Engelen describes some atypical cases which throw light on the etiology of certain puzzling disturbances in the cerebrospinal system. In the first the syndrome simulated amyotrophic lateral sclerosis, except that it had been in a stationary stage for twelve years and that there had been pains in the legs at first. There were apparently no syphilitic antecedents but the ophthalmologic findings confirmed his assumption of a possible syphilitic origin previously unsuspected. The patient had wasted a fortune in seeking help from quacks when early appropriate specific treatment would probably have effected a cure years before. In a second case, the symptoms of a spinal cord trouble came twenty-five years after unsuspected syphilitic infection. The clinical picture was dominated by variable root and cord symptoms, pains in the back, neuralgic pains in the legs, and tenderness over the spine, tremor, bladder disturbances and variability of the reflexes. In another similar case the pupil reflex appeared and disappeared suddenly a number of times. These patients were both cured by specific treatment. In another case, the symptoms suggested diffuse basal meningitis plus spinal meningomyelitis, too advanced for relief in a woman of 63.

62. **Parasitic Origin of Cancer.**—In this communication from von Leyden's cancer service at Berlin, Lewin states that the facts observed in regard to the prevalence of cancers in the animals in certain cages and in human beings in certain houses and families can be explained only by assuming a parasitic origin—that the metabolic products of certain parasites are able to stimulate the cells of the new host to malignant proliferation.

Medizinische Klinik, Berlin

April 18, V, No. 16, pp. 567-612

64 *Multiple Acute Periostitis. R. v. Jaksch.
65 *Chronic Intermittent Albuminuria after Infectious Nephritis. H. Eichhorst.
66 *Deficiency in Mineral Constituents Predisposes Organism to Tuberculosis. (Demineralization organique.) A. Robin.
67 The Auto-elimination of Nitrogen and Mineral Salts into the Bowel in Health and Disease. (Eigenabscheidung von Stickstoff und Mineralsalzen im Darm.) G. Wallace.
68 Mineral Metabolism in Young Children. (Mineralstoffwechsel im frühen Kindesalter.) L. F. Meyer.
69 Tests of Heart Tonics on Frogs. (Herzmittel im Froschversuch.) H. Freund.
70 Theory of Origin of Species in Modern Geology. (Die Deszendenzlehre in der modernen Geologie.) F. Frech.
71 *Progressive Paralysis from Standpoint of General Practitioner. R. Thomsen.

64. **Multiple Acute Periostitis.**—von Jaksch describes a syndrome which has much in common with acute articular rheumatism and probably has sometimes been confounded with the latter. The typical case reported in detail was in a young housemaid and was characterized by multiple periostitis, enlarged spleen and progressive leucocytosis, with such large proportions of eosinophiles that he examined the muscles for trichinosis. Fever kept up for several weeks; the swelling and pain were localized in the shafts of the bones instead of in the joints, and sodium salicylate not only failed to show the slightest benefit but induced symptoms of intoxication even in small doses. The affection finally subsided spontaneously under local application of Goulard's lead water (diluted solution of subacetate of lead with a little alcohol). The metabolic findings did not show any great disturbance in the metabolism. At one time he assumed certain transient murmurs to be due to concomitant endocarditis, but, as the heart findings became constantly normal thereafter, he now accepts them as fever murmurs. He has previously described a case of this same affection with a chronic, progressive and fatal course, and regards it as a morbid entity distinguished by the eosinophilia, myelocythemia and multiple periostitis, the localization of the swellings and pains throughout the entire extremities and the failure of the usual antirheumatic medication.

65. **Chronic Intermittent Albuminuria as Relic of Infectious Nephritis.**—Eichhorst has observed this intermittent albuminuria in a number of youths and young men and lays stress on psychotherapy to tranquilize the patient and the family, supplemented by careful hygiene and tepid baths, avoiding stimulants and salted and smoked meats, the diet being restricted mainly to milk, vegetables and starchy foods. He never witnessed much benefit from change of climate and none from drugs. Such patients must be careful not to get chilled suddenly, or get wet, and woolen underclothing is advisable. Most of his patients recovered entirely in the course of time, but several years were required in some cases.

66. **Demineralization of Tissues Predisposing to Tuberculosis.**—Robin's views in regard to the deficiency of mineral constituents of the blood and tissues as the basis on which tuberculosis develops have been described in these columns from time to time. He here cites various objections that have been made to this assumption and answers them in detail. He states that while normal blood contains from 8.39 to 9.109 per thousand parts of inorganic matters, the blood in the "pretuberculous" stage and in the early stages of tuberculosis contains only from 6.38 to 7.85 per thousand. The elimination of inorganic matters is also excessive; analysis of the organs of 5 consumptives and of 2 healthy persons succumbing to accidents showed that the proportion of inorganic matters in the lungs of the latter averaged 12.04 while in the tuberculous lung it averaged only 7.9 parts per thousand. On the other hand, in the sound lung in the tuberculous individuals the proportion was 14.27 per thousand. The contrast was still more marked in analysis of the femurs from both classes. Among the practical conclusions drawn is the necessity for energetically combating gastric hyperchlorhydria which promotes this organic demineralization and thus opens the door to tuberculous infection. A further conclusion is the necessity for supplying mineral elements to aid the organism in its struggle against the infection.

71. **Progressive Paralysis in General Practice.**—Thomsen discusses in detail the differentiation of progressive paralysis, especially from neurasthenia, with which it is most often confounded. Progressive paralysis should be suspected, he says, whenever a man between 35 and 45 complains of nervous or hypochondriac disturbances in the absence of a constitutional predisposition or tangible predisposing factors for neurasthenia, especially when there is a history of syphilis and the disturbances have come on gradually. But he warns that paralysis should never be diagnosed without definite physical findings or a convincing anamnesis. Disturbances in speech are peculiarly suggestive as testifying against neurasthenia.

Münchener medizinische Wochenschrift

April 13, LVI, No. 15, pp. 745-792

72 *Fever in Infectious Diseases. (Schädliche und nützliche Wirkungen der Fiebertemperatur bei Infektionskrankheiten.) F. Rolly.
73 *Frequency of Meningitis in Pneumonia. G. Liebermeister.
74 *Siphon and Aspiration in Treatment of Tuberculous Empyema of the Pleura. E. Schmidt.
75 *Treatment of Leucorrhea. (Behandlung des "Ausfluss.") M. Nassauer.
76 Effectual Treatment of Traumatic Ossifying Myositis with Fibrolysin. J. Aizner.
77 *Iron as Substitute for Bismuth in Roentgen Work. (Eisen als Ersatz des Wismut für Röntgenaufnahmen.) K. Taege.
78 *Osteomalacia and the Ovaries. H. Cramer.
79 Tardy Apoplexy from Standpoint of Industrial Insurance. (Tod durch Spätapoplexie als entschädigungspflichtige Unfallfolge anerkannt.) E. Franck.
80 *Combined Arsenic and Tuberculin Treatment. A. Friedmann.
81 *Significance of Urobilin. (Vorkommen und Bedeutung des Urobilins.) W. Hildebrandt. Commenced in No. 14.

April 20, No. 16, pp. 793-840

82 Time Required for Coagulation of Blood. (Zur Frage der Blutgerinnungszeit.) J. Hartmann.
83 Superheated Air in Acute Suppurations in the Hand. (Erfolge der Heissluftbehandlung bei akut eitrigen Entzündungen der Hand.) H. Iselin.
84 Occurrence of Pains on Change of Weather. (Auftreten von Schmerzen bei Witterungswechsel.) L. Miller.
85 Radical Operation for Chronic Empyema of Maxillary Sinus. (Radikaloperation des chronischen Kieferhöhlenempyems.) Aenstoots.
86 Circular Suture of Artery. (Naht der Gefässstämme bei Stichverletzungen der Extremitäten.) M. Grasmann.
87 *Recent Discovery of the Oldest Fossil Man Extant. (Das jüngst entdeckte älteste menschliche Skelett.) L. Reinhardt.

72. **Action of Fever in Infection.**—Rolly remarks that the generally accepted opinion in regard to febrile temperatures is that they are part of the defenses of the organism but that certain injury is connected with them which compels us under some circumstances to strive to reduce the febrile temperature. He then describes experimental research and compares the results with those of others in this line, drawing the conclusion that in infectious diseases there is increased destruction of albumin, both as a result of the high temperature and as a result of the causes inducing the fever. With a temperature under 104 F. the share of the fever in this increased destruction of albumin is comparatively so small as to be negligible. The changes in the corpuscles and in the proportion of hemoglobin are the work of the infectious cause and are not the results of the increased temperature. His experiments showed that the agglutinins were increased in the heated rabbits; the higher temperature favored the production of agglutinins as also of antitoxins and bacteriolysins. On the whole, he concludes, the febrile temperature if not excessive, must be regarded as a process which does much more good than harm. It is a manifestation of the efforts of the organism to neutralize or get rid of the invading bacteria or toxins. Fever under 104 F. should not be combated unless in case of severe disturbances of the central nervous system, such as headaches, stupor or excitement. Antipyretic measures in these cases are not directed against the high temperature so much as against the other symptoms. If antipyretic measures become necessary they should not be too severe, merely tepid baths with mild spongings and possibly a moderate use of antipyretic drugs, never cold baths according to Brand or Liebermeister.

73. **Frequency of Meningitis in Pneumonia.**—Liebermeister states that microscopic examination showed signs of suppurative meningitis in three out of eleven cases of pneumonia in adults. The nervous symptoms were no more pronounced in the meningitis cases than in many without

74. **Drainage of Tuberculous Empyema of the Pleura.**—Schmidt gives an illustrated description of an aspirating apparatus composed of a jar with three tubes in the stopper, one connecting with a catheter introduced into the posterior wall of the thorax, the second tube connected with an air pump and the third with a manometer. When a vacuum is induced in the jar by the air pump, the negative pressure is felt even in the thorax. The connecting tube can be clamped and removed from the connection with the jar so that the negative pressure can be kept up for a long time without discomfort to the patient. This draws out the collapsed lung and proved effectual in the three cases in which the device has been used.

75. **Treatment of Leucorrhea.**—Nassauer deplores the present custom of treating leucorrhea with douches, etc., stating that the same principle should be applied here as to other secreting lesions, that is, to absorb the secretion and keep the surface dry, thus giving the parts a chance to heal. This is accomplished, he says, by dusting with a dry powder, and for this he has found bolus alba the most convenient, inexpensive and effectual. The powder is applied at the same time the walls of the vagina are distended with air, thus smoothing out all the folds and recesses. This he accomplishes with a pear-shaped glass bulb with a reservoir opening into a tube which passes through the glass pear connected with a rubber bulb. The glass bulb closes the entrance to the vagina airtight, and pressure on the rubber bulb fills the vagina with air and at the same time sprays it with the dry powder. He calls this little apparatus a "siccator," and has obtained good results with it in 100 cases. About once a week he orders a cleansing douche followed by the dry powder. His patients included cases of acute gonorrheal affections, senile colpitis, inoperable cancer, etc., and all were much gratified by the results.

77. **Substitute for Bismuth in Roentgen Work.**—Taege refers to Lewin's suggestion to use magnetic oxid of iron instead of bismuth, and confirms its value for Roentgen work, but he points out the objections to it in that it is not carried by druggists in stock, as a rule, and usually requires pulverization. These disadvantages can be avoided, he asserts, by substituting ferric oxid, better known as polishing rouge, which is obtainable everywhere as an exceptionally fine and inexpensive powder. He has taken, himself, 750 grains within a short period without disturbance, to test its harmlessness.

78. **Osteomalacia and the Ovaries.**—Cramer attributes osteomalacia to some metabolic anomaly which occurs more frequently in certain localities and in his district affects animals frequently. The aggravation of the symptoms during the menses and pregnancy is certainly due to the increase in size and augmented secretion of the ovaries. He does not regard the ovaries themselves as directly responsible for the osteomalacia. Besides removal of the ovaries, phosphorus and suprarenal preparations and ovarian antibodies are logically indicated in treatment. In a recent case a iii-para of 27, eight months pregnant, presented symptoms of osteomalacia. Castration was advised but refused. After the childbirth the symptoms subsided, but returned again at the next pregnancy in so severe a form that the ovaries had to be removed. To insure completeness the tubes were resected at the same time. The expected abortion did not occur and seven months later a normal child was delivered. The symptoms of osteomalacia subsided immediately after the castration. During the rest of the pregnancy there were no manifestations from the artificial menopause, but a month after delivery hot flashes were noticed. The ovaries from this woman were transplanted in a girl of 22 with pronounced infantilism. Cramer cites this case of osteomalacia as a striking proof of the fact that the osteomalacia is entirely independent of the development of the fetus, but is influenced by the exaggerated functioning of the ovaries.

80. **Arsenic-Tuberculin Treatment.**—Friedmann writes from Brazil to confirm Mendel's statements in regard to the advantage of combining arsenic with tuberculin. The beneficial effect is marked on the appetite.

81. **Urobilin.**—Hildebrandt discusses the occurrence and importance of urobilin in health and disease and especially its relation to jaundice. He describes a technic for determination of the proportion of the urobilin in the urine, declaring that the clinical examination of the patient which omits this finding is incomplete. Fever in itself never induces urobilinuria, and urobilin disappears from the urine in case the common bile duct becomes obstructed. Urobilinuria occurs from abnormal destruction of blood if the liver is sound, but if there is no other abnormal destruction of blood, urobilinuria always indicates some lesion in the liver and local stasis of bile.

87. Noted in THE JOURNAL, March 13, 1909, page 896.

Wiener klinische Wochenschrift, Vienna

April 15, XXII, No. 15, pp. 515-552

88 Routes of Infection by Tubercle Bacilli, especially in Infancy. (Die Infektionswege der Tuberkulose, insbesondere im Säuglingsalter.) T. Escherich.
89 Serodiagnosis in Scarlet Fever. (Wassermannsche Reaktion bei Scharlach.) R. Fua and H. Koch. Id. (Ueber Komplementbindungsreaktion bei Scharlach.) V. Hecht, M. Lateiner and M. Wilenko.
90 Physical-Dietetic Treatment of Arteriosclerosis. A. Strasser. Commenced in No. 14.

April 22, No. 16, pp. 553-588

91 *Scarlet Fever. (Bakteriologische und serologische Untersuchungen bei Scharlach.) F. Schleissner.
92 *Treatment of Femoral Hernia. (Behandlung der Kruralhernie.) J. Exalto.
93 *Polyserositis. J. Wiczkowski.
94 Isolated Defect of Auricular Septum and Its Clinical Manifestations. (Defekt der Vorhofscheidewand und seine klinischen Erscheinungen.) E. Popper.

91. **Bacteriology of Scarlet Fever.**—Schleissner found streptococci almost in pure cultures on the tonsils in every case of scarlet fever examined in its incipiency before the sore throat had developed. He was also able to cultivate streptococci from the blood in a large proportion of the 73 cases reported, and the presence of antibodies was also unmistakable, reaching the maximum about the tenth day. It seems evident that streptococci are closely connected with the scarlet fever process, and hence that antistreptococcus treatment can not fail to aid in attenuating the disease.

92. **Femoral Hernia.**—Exalto states that of the 134 patients with femoral hernia operated on at von Eiselsberg's clinic at Vienna during 1901-1908, all but 20 were women. Three of the cases reported illustrate the dangers of forcible reduction at home of an incarcerated hernia; in one case an already perforated loop of intestine was thus pushed back and fatal peritonitis resulted. In 2 cases the femoral hernia developed after a radical operation for an inguinal hernia on the same side. This and other experiences suggest, he says, the advisability of operating on the femoral hernia through the inguinal ring if it is unusually large, even if there is no actual inguinal hernia at the time. By suturing the muscles to the horizontal ramus of the pubis the tendency to femoral hernia is most effectually combated while at the same time the danger of development of an inguinal hernia is averted.

93. **Polyserositis.**—Wiczkowski has encountered during the last five years 35 cases of a simultaneous inflammation of several serous membranes, fatal in 4 instances. The polyserositis develops in three stages. In the first there is merely a serous effusion in the pleura, pericardium and peritoneum, but no fever or apparent changes in the internal organs or glands and the patients complain only of general weakness and vague pain in the chest and abdomen. Adhesions form and the condition grows worse under increased temperature, with debility and irregular stools. Exceptionally the condition may improve and the improvement may persist for several years. The third stage is characterized by high fever, cachexia and edema of the feet, and autopsy reveals cheesy degeneration of the lymph glands, parenchymatous degeneration of the internal organs and tubercles disseminated over the serous membranes while the lungs and digestive tract are intact. Treatment can be only by general strengthening measures, forced feeding and possibly injections of some preparation of arsenic, supplemented by early aspiration of the effusion, this latter having a favorable effect on the circulation and nourishment of the regions involved and hastening the development of adhesions which modify favorably the further course of the affection. The negative findings in the heart, lungs and kidneys differentiate the polyserositis from disease in these organs. He emphasizes the constant absence of the usual symptoms of pleurisy or peritonitis, also the simultaneous involvement of all the serous membranes, suggesting some general cause, which he thinks is unmistakably endotoxins generated in some comparatively small tuberculous focus, these endotoxins reaching and irritating the serous membranes. Some old focus in the lymph glands or urogenital apparatus was discovered in all the cases that came to autopsy. This assumption of the etiology explains the benefit from prompt evacuation of the effusion which removes quantities of these endotoxins while favoring production of adhesions. He is convinced that many cases of alleged "pericardiac pseudocirrhosis of the liver" and "chronic hyperplastic perihepatitis" really belong in this class of polyserositis. A case is reported in a footnote which confirms this view: A woman of 28 with effusions and adhesions in the pleura, pericardium and peritoneum, and with enlarged liver but normal temperature was tapped, and after evacuation of the effusion in the peritoneum a tumor was discovered in the pelvis which proved to be a cold abscess following a spondylitic process. The endotoxins generated in this abscess were evidently responsible for the development of the polyserositis.

Zentralblatt für Chirurgie, Leipsic

April 17, XXXVI, No. 16, pp. 553-592

95 *Radical Operation for Inguinal Hernia by Transverse Incision and Raising the Pelvis. (Radikaloperation der Leistenhernien mittels Haut-Fascienquerschnitts und Beckenhochlagerung.) C. Hofmann.

95. **Transverse Incision for Inguinal Hernia, Raising the Pelvis.**—Hofmann ensures with his incision perpendicular to Poupart's ligament that the musculature, deep fascia and peritoneum are incised lengthwise of their fibers. The herniotomy is much facilitated by his practice of raising the pelvis as soon as the hernial sac is mobilized.

Zentralblatt für Gynäkologie, Leipsic

April 17, XXXIII, No. 16, pp. 553-584

96 *Breast Pump. (Eine neue Milchpumpe.) R. T. Jaschke.
97 *Extraperitoneal Cesarean Section. (Extraperitoneale Kaiserschnitte.) H. Freund.

96. **Improved Breast Pump.**—The improvement in the pump, of which an illustrated description is given, consists merely in a "cone valve," a little cone fitting in an opening in the nozzle of the air pump with which suction is applied to the breast. The cone is lifted at will by a spring lever, and thus allows air to enter the glass chamber with which the pump is connected. The breast and nipple recede as air is admitted, but the pump still fits air-tight over the breast. Renewed aspiration with the air pump draws the breast and nipple out again, this intermittent suction and subsidence imitating the natural process of the child's sucking. It is thus possible to empty both breasts completely in from eight to fifteen minutes, so that an infant applied afterward is unable to get any milk. The spring cone valve can be applied to any air pump used for the purpose.

97. **Extraperitoneal Cesarean Section.**—In the two cases reported by Freund he incised the cervix after transverse incision of the abdomen, and was much pleased with the ease and results of this cervical Cesarean section. It is facilitated by the fact that the parietal peritoneum can be readily detached from the abdominal wall, even in the non-pregnant. It is most readily accessible through a transverse incision. The bladder during pregnancy is connected with the uterus only by delicate and loose connective tissue. The peritoneum can thus be easily pushed up and the bladder pushed down or to one side. It is important to turn the uterus from without until the point where the reflection of the peritoneum can be most readily pushed away is brought up for the incision, and the head can be also guided from without to bring it into the incision. He adds that the bladder should not be filled beforehand, and no retractors should be used on the bladder or lips of the wound. The incision in the cervix should be on the median line, and only the suspicious or infected cases require drainage.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 13, XXX, No. 44, pp. 465-472

98 *Treatment of Gangrenous Appendicitis. A. Montini.

April 15, No. 45, pp. 473-480

99 Bismuth Paste for Roentgen Examination of Fistulas. (Sull'esplorazione dei tramiti fistolosi col processo di Beck.) G. Spelta.

98. **Marsupialization of Gangrenous Appendix.**—Montini found at the laparotomy in the case described an ulcerating and gangrenous appendix with extensive peritonitis in this part of the abdomen. The cecum was involved in the ulceration to such an extent that he felt compelled to refrain from appendicectomy for the time being, and merely drew the appendix outside the abdomen and fastened the wall of the cecum to the lips of the wound all around the implantation of the appendix. By the end of a week the inflammation and tumefaction had subsided to such an extent that the appendix could have been readily resected, but he left it as it seemed to be undergoing a process almost like absorption as the wound healed. The adhesions that formed were sufficient, he thought, to protect the peritoneum against further trouble from the appendix.

Policlinico, Rome

April, XVI, Surgical Section, No. 4, pp. 145-192

100 *Experimental and Histologic Study of Anastomosis of Nerves. P. Alessandrini.

101 *Sarcoma of the Pancreas. F. Ravenna.

100. **Anastomosis of Nerves.**—Alessandrini's experiments were made on dogs and showed that the ultimate functional results are better in young than in old animals. In the younger dogs he found that complete restitution of function followed implantation of the hypoglossal nerve in the spinal accessory severed where it emerges from the sternomastoid, or in the other hypoglossal or some nerve connected with the brachial plexus. Even when only a few fibers of the hypoglossal had been implanted in a lengthwise buttonhole in the other nerve the functional results were excellent. For the clinic, in case of danger of aspiration pneumonia from paralysis interfering with swallowing, he advises implantation of the hypoglossal in its sound mate, which was easily done in his experiments. An interval of two or three months between the severing of the nerve and its anastomosis did not interfere with the restoration of function, but it was found necessary to resect the enlarged end of the stump.

101. **Sarcoma of the Pancreas.**—Ravenna gives an illustrated description of two cases of sarcoma of the pancreas, in one of which a suprarenal capsule was imbedded in the depths of the pancreas, the suprarenal capsule on the left side being missing otherwise. This patient was a boy of 15, the other was a man of 50.

Riforma Medica, Naples

April 19, XXV, No. 16, pp. 421-448

102 *Diagnosis of Hypernephroma. (Mezzi diagnostici del cosidetto ipernephroma del rene.) D. Taddei.

103 *Experimental Research on Passage of Micro-organisms through Wall of Bladder. (Passaglo dei microorganismi attraverso le pareti vesicali.) G. Milone.

102. **Diagnosis of Hypernephroma of the Kidney.**—As a contribution to the diagnostic measures for the so-called hypernephroma of the kidney, Taddei relates a case in which an intermittent tendency to hematuria was noticed for a few weeks, in a boy of 11, with moderate fever and finally dysuria and retention. A tumor palpated in the kidney was removed and the various tests for hypernephroma were applied but with negative findings except the Croftan iodid-starch test, the Fedoroff test with mydriasis in the frog eye, and the nitrate of silver test. He attributes the positive findings even in these tests to a simple osmotic process or to the non-specificity of the tests—the iodid-starch test having given equally positive findings in his hands with an adenocarcinoma of the breast.

103. **Passage of Micro-Organisms Through the Bladder Wall.**—Milone's extensive experimental research has confirmed the assumption that when the bladder walls are sound and the flow of urine normal, micro-organisms are unable to find lodgment and injure the walls and pass through them—all of which is favored, on the other hand, by stagnation of urine

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

ORTHOPEDIC SURGERY FOR PRACTITIONERS. By Henry Ling Taylor, M.D., Professor of Orthopedic Surgery and Attending Orthopedic Surgeon, New York Post-Graduate Medical School and Hospital. Assisted by Charles Ogilvy, M.D., Adjunct Professor of Orthopedic Surgery New York Post-Graduate Medical School and Hospital, and Fred H. Albee, M.D., Instructor in Orthopedic Surgery, New York Postgraduate Medical School and Hospital. Cloth. Pp. 503, with illustrations. Price, $5.00. New York: D. Appleton & Co., 1909.

HEALTH EDUCATION LEAGUE PAMPHLETS: No. 16, Sexual Hygiene. By a member of the Massachusetts Medical Society. (20 pages. 4 cts.) No. 17, Health in Labor Camps. By. Mrs. E. H. Richards and Peter Roberts Ph.D., Secretary, Industrial Department, International Committee, Y.M.C.A. (10 pages. 3 cts.) No. 18, Tuberculosis. By Edward O. Otis, M.D. (24 pages. 5 cts.) No. 19, When to Call the Physician. By George W. Gay, M.D. (15 pages.) Paper. Boston: Health Education League, 113 Devonshire St.

DIE ENTSTEHUNG UND VERBREITUNG DER TUBERKULOSE IM WEIBLICHEN GENITALTRACTE. Von Dr. Albert Blau, Assistenten der Klinik von Rosthorn in Wien. Paper. Pp. 95. Price, 4 marks. Berlin: S. Karger, 1909.

ETUDES ANATOMO-CLINIQUES: COEUR—VAISSEAUX—POUMONS. Par Le Dr. Raymond Tripier, Professeur à la Faculté de Médecine de Lyon. Paper. Pp. 604, with illustrations. Price, 10 francs. Paris: G. Steinheil, 1909.

HANDBUCH DER BIOCHEMIE DES MENSCHEN UND DER TIERE. Von Prof. Dr. Phil. et Med. Carl Oppenheimer, in Berlin. 15th installment. Paper. Pp. 320. Price, 5 marks. Jena: Verlag von Gustav Fischer, 1909.

THE ETIOLOGY AND NATURE OF CANCEROUS AND OTHER GROWTHS. By W. T. Gibson, A.R.C.S. Cloth. Pp. 123. Price, 6 shillings, net. London: John Bale, Sons & Danielsson, 1909.

FIRST ANNUAL REPORT OF THE SAN FRANCISCO ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS. 1908. Paper. San Francisco: 162 Post Street.

THE PHILOSOPHY OF LONG LIFE. By Jean Finot. Transl. by Harry Roberts. Cloth. Pp. 308. Price, $2.50 net. New York: John Lane Co., 1909.

THIRTY-FIRST ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC HEALTH, AUGUSTA, GEORGIA. 1909. Paper. Pp. 74.

New Patents

Recent patents of interest to physicians:

916098. Massage apparatus. L. Bramson, Copenhagen, Denmark.
915833. Operating table. G. R. De Nise, Denver.
915946. Making aldehydes. C. Ellis, White Plains, N. Y., and K. P. McElroy, Washington, D. C.
916143. Disinfector. F. J. Gaus, New York.
915765. Pasteurizing apparatus. H. M. A. Harders, Milwaukee, Wis.
915959. Extracting iodin. E. Herrmann, Paris, France.
915977. Obtaining strong aqueous solutions of creosote. D. Lodigiani, Mexico, Mexico.
916177. Syringe. H. A. Mather, Pocatello, Idaho.
916046. Water-bag. D. Smith, Cotulla, Texas.
915917. Syringe. P. L. Wilbur, New York.
916692. Topical remedy. R. von Foregger, New York.
916864. Bed-pan. A. Henhapl, Superior, Wis.
916566. Ear-drum. A. O. Leonard, New York.
916567. Fresh-air treatment apparatus. L. P. Leonard, St. Cloud, Minn.
916953. Watch for counting the pulse by sound or touch. H. A. Lugrin, New York.
916762. Fumigating apparatus. C. E. McFadden, near Fullerton, Cal.
916611. Sterilizing apparatus. J. Schoettl, Brooklyn.
916900. Electrolytically producing peroxid of hydrogen. G. Teichner, Nuremberg, Germany.
916637. Massage apparatus. K. P. Wallen, Providence, R. I.
917403. Combined blanket and sleeping bag. E. Benger, New York.
917706. Formic-aldehyde-containing composition and making the same. H. S. Blackmore, Mount Vernon, N. Y.
917276. Apparatus for measuring and indicating blood pressure. F. A. Faught, Philadelphia.
917062. Separating casein. R. Head, New York.
917442. Pipette attachment. A. E. Hutchinson, Victor, Colo.
917626. Fumigator. L. S. Livingstone, Johnstown, Pa.
917113. Truss and like surgical appliance. W. F. Offord, Cambridge, Eng.
917151. Deodorizer container. L. R. Rich, Saratoga Springs, N. Y.
917367. Massage instrument. J. W. Scott and D. Tibbals, Granite City, Ill.
917502. Making phosphoric acid and Glauber salt. E. H. Strickler, New York.
917376. Hernia-support. F. J. Stuart, St. Louis.
917694. Combined bandage and dressing. H. Wilson, Conneaut, Ohio.
918472. Thermometer case. M. W. Reed, South Fork, Pa.
917812. Combined abdominal support and truss. L. H. Temme, Cleveland, Ohio.
918234. Syringe. C. F. Welsh, Detroit.
918409. Sterilizer. W. A. Wiley, J. E. Hall and G. F. Hall, Erie, Pa.